THE BUILDER

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WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

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LIABILITIES OF HOUSEHOLDERS

WHEN a man purchases a house on a road that has not been taken over by the local authorities he should be aware that unknown liabilities attach to his ownership, and that a time may come when the private road upon which he has rather prided himself may be a source of considerable expense when it comes to be taken over by the authorities and has to be made up according to their specification. The more prudent man, who has selected his residence upon a street taken over by the local authorities, sewered, metalled, paved, and provided with means of lighting, and with water and gas laid on to the house, may think that he has secured himself against any outside expenditure and that his liabilities are confined to the limits of his own domain; but circumstances may arise which will quickly undeceive him and show him that perils from outside still lie in wait for him.

We live in a complex age and are accustomed to see almost every possible authority taking up the streets and prying into their depths, but to the ordinary passer-by this only means inconvenience to traffic, and he passes on his way with a grumble. The householder may, however, discover he has a personal interest in these excavations if, on returning home, he finds a peremptory demand from the water company awaiting him to repair a water pipe in the public road or footpath outside the house he owns.

All sorts of heavy traffic, possibly of modern type and too heavy for the class of road, have daily been passing his house, besides which the road is riddled with ridges made by the inquisitive people who have opened trenches to investigate its interior—the local authority, the gas company, the water company, and the Post Office in connection with telephones—and any one of these users of the roads and explorers into its entrails may have caused the damage complained of. But the water company is peremptory, and the timid householder, being confronted not only with the perils of a summons, but also haunted with visions of his water supply being cut off, takes the line of least resistance and humbly has the pipe examined. He finds his communication pipe in excellent condition, but leaking from a cause obviously unconnected with himself—crushed, we will say, by traffic or even penetrated by the mark of a pick. Having opened up the pipe he repairs the damage and then looks round to see from whom he can recover the expenses he has incurred. The water company, the gas company, the local authority and the Post Office may assure him of their innocence, but do not seem to realise that he himself or his servants for business or pleasure have not stuck a pick in the communication pipe. The alibi in every case is not convincing, for one of the above authorities whom he and others have seen busy recently beneath the surface of the footpath where the damage was caused have the candour to admit that they carried out their operations some 20 ft., let us say, from the injured pipe, but the idea that one of their workmen can have inadvertently stuck a pick into this pipe outside the actual area he was engaged to work upon is opposed in the best official manner. The householder is left without apparent remedy, strongly suspicious as to the actual wrong-doer, but incapable, it may be, amidst other possible wrong-doers, of bringing the deed home to anyone. All he knows is that he did not stick a pick into the communication pipe or crush it and that he is a much injured person.

If he desires to see whether, whoever caused the injury, he is the person to make it good, he is confronted with another difficulty. Many of the water companies have private Acts which may incorporate or not incorporate or vary the public Statutes, the Waterworks Clauses Act, or the Metropolis Water Act, and he sees a vista of litigation opening up before him and, in all probability, eventually decides to pay the known charges he has been put to, rather than embark upon the sea of litigation.

We can only refer to the public Statutes here, but before doing so we may suggest that a general principle should be made to apply in all public Statutes governing such public undertakings as water and gas companies, a principle that should be compulsorily incorporated in every private Act. These undertakings have powers for their own profit of laying their mains down the public roads, but they cannot turn these mains to profit unless they lay communication pipes to the houses they intend to serve, and therefore their liability to maintain those mains should extend to the communication pipes so far as the public road or footpath extends, leaving the private householder only responsible for defects which occur upon his own premises.

That this is not the case at present can be shown from the case, David *v.* Metropolitan Water Board (1919, 1 K.B. 44). That was a case under the private Act of the Metropolitan Water Board. There was a leakage in the road, and the Board, uncertain whether the leak was in the main or in a communication pipe, opened up the road, but finally located the leak in a communication pipe. They gave the owner of the house notice to repair the pipe, which he immediately complied with, but the Board claimed from him all the expenses of opening up the road. The Court held that, under the section in question, which enabled the Board to recover repair of any injury or defect in a communication pipe, only the costs of repair to the pipe could be recovered but not the expenses incurred in exploratory investigation. The principle we have indicated above is recognised in the Waterworks Clauses Act, 1847, but only as regards houses the annual value of which does not exceed £10, for it provides that the undertakers, upon payment or tender of the water rate, shall lay down communication pipes and other necessary works for the supply of such houses, and shall keep the same in repair, leaving the water company free to charge a reasonable annual rent for such pipes and works (see section 44), but in other cases under section 48 it is contemplated that the house owner shall lay the communication pipes, and although the Act does not say so, no doubt it is implied that he will be responsible for repair. This principle we are advocating also seems accepted in the Gasworks Clauses Act, 1871, section 11, as there the undertakers are required to lay communications from the main to any premises within 25 yds. of the main, and although repair of these pipes is not expressly mentioned it is implied (see section 6, Gasworks Clauses Act, 1847) that it shall fall upon the undertaker, and by another section the repair of meters is expressly laid upon the consumer.

We are not, however, endeavouring to explain the effect of the existing Statutes, but calling attention to what appears a necessary amendment of the law by the insertion in the public Acts of a section corresponding to section 44 of the Waterworks Clauses Act, which we have referred to above, but not limited in application to houses of only £10 annual value, and, moreover, the compulsory adoption of that clause in every private Act relating to gas and water undertakings, for, under modern conditions, it is wholly unreasonable that the private owner's responsibility should extend to pipes laid in the public roads exposed to heavy traffic and to interference by all kinds of public bodies. His liability should be confined to the point where the pipes enter his own premises.

NOTES

Housing Schemes and Architects.

AT a recent meeting of the Hartley Wintney Rural District Council the Chairman was asked whether the Council intended to appoint an architect for their proposed scheme for the erection of about 100 houses, and he is reported to have said in reply: "We have adopted plans and specifications and we are advertising for preliminary tenders to be submitted to the Ministry. If the Ministry sanction them, the Buildings Surveyor will supervise their erection. We do not propose to throw away £25 per house on architect's fees." We wonder whether the Chairman has read the speech of Mr. Neville Chamberlain (the Minister of Health) at the meeting of the Royal Institute of British Architects last week; and, if so, whether he is very hopeful that the Ministry will sanction the plans for these 100 houses without architectural supervision? No doubt the Chairman of the Rural Council is quite sincere in thinking that money is thrown away on architectural supervision, but we hope the enlightened opinion of the Minister as to the difference between architecturally-controlled schemes and others will do something to convince him he has a lot to learn, and that he will be told that most prudent and intelligent people have discovered by experience, often costly experience, that it pays to employ a properly-trained architect to design and carry out housing schemes.

City Growth.

WE imagine that few of us fully realise the exact and particular difficulties we are up against in our fight for better conditions of daily life. The most difficult problems are, of course, in our congested towns, with their continuous growth. In two interesting papers just read before the Town-Planning Institute by Mr. Davidge, and before the Surveyors' Institution by Mr. Dendy Watney (abstracts of which we publish), we are helped to a realisation of the problems of town and city growth. Do we realise sufficiently that, as Mr. Davidge says, the problem of the large town is primarily one of transport? Do we realise what we have to confront as time goes on by the gradual eating into our vacant spaces round our towns? Barring war and pestilence, what immense growth still awaits us in London! Can the poor suburban services, the miseries of the strap-hanger, the terrible delays and congestion in our streets, be allowed to go on from bad to worse? Can we ever hope to secure a more efficient control over all the many things which go for a general and pleasing amenity in our streets and buildings? One of the greatest difficulties of town life is the continual addition to the number of those who must live or work in our towns; and one relief to this would be the removal of large buildings for office or manufacturing work to suburban or country areas, though obviously there must be a limit, as Mr. Davidge points out, to the multiplication of garden cities. Our increasing vitality and our insistent efforts for better life conditions are surely providing a heavy handicap for all who are actively at work for the general good.

The City Churches.

IT is well that the belief in values other than that of money should be held forth for public benefit in such a periodical as *The Banker* by Sir Edwin Lutyens and Professor Reilly. They have stated their case well, and we feel sure of the general public, if they gave themselves the trouble to think about it, would realise that the good influence of good architecture may be felt by a large number of people, and that even the outsides of churches form a potent influence as well as their interiors It does seem curious that in this age of enlightenment we should have to beg for the preservation of objects which do so much to give character and beauty to London.

Progress and Destruction.

SOME sympathetic sketches by Mr. Ernest Coffin of old houses in Plymouth remind us of the continual danger which exists of the obliterating hand of progress in our towns. The ever-increasing value of land in our congested centres makes the preservation of such interesting heirlooms from the past very difficult, but we can only hope that our city and town authorities will arrive at a belief that other values are of more account sometimes than merely mercenary advantages. As to these old buildings at Plymouth Sir Philip Pilditch writes:—"Whichever method be adopted (the clearing out of the entire area or the renovation of buildings and improvement

Exhibition Stand, Empire Marketing Board, Holland Park Rink.

MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

Detail of Vase on Balustrade of National Provincial Bank, Chelmsford. (*See p.* 774.)

of the existing conditions), only a part of the present population can be accommodated there. Can one imagine Mentone, Florence or Hastings deliberately destroying its similar mediæval quarter?"

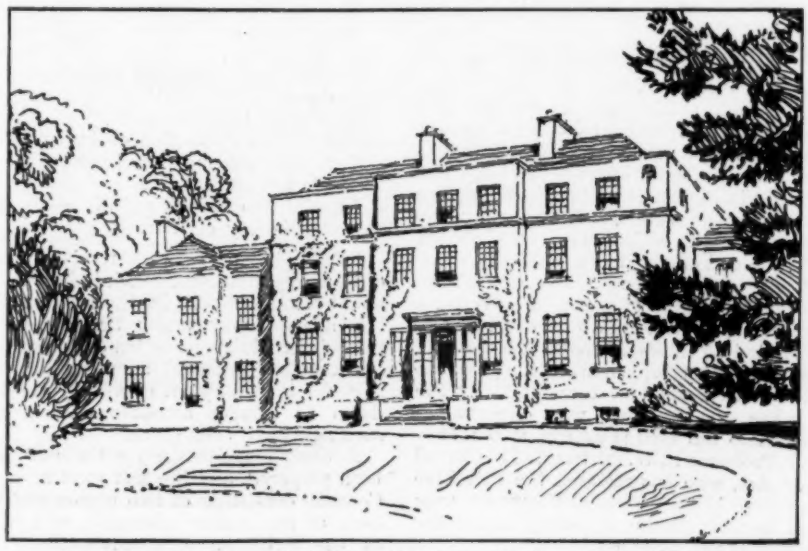
Insulting the Architectural Profession. Writing recently in the *Journal of the Royal Institute of British Architects*, Mr. Gordon Allen protests against the practice of offering commissions to architects for specifying certain goods; and we gladly give further publicity to his protest. Certainly it should be widely known that, in Mr. Allen's words, members of the Institute, "as well as every decent architect, feel extremely insulted" when offered such commissions. Yet he mentions two recent instances of such offers to himself and states that he knows of other architects having had similar experience. In his case, these offers came, not from ordinary tradesmen, but from gentlemen commercially interested in the sale of goods, one of whom was a client of his. Really it is time that the general public should have a better understanding of the professional status of architects.

Building Trade Discounts. Mr. Gordon Allen also draws attention to the subject of building trade discounts, which he describes as "a nuisance in more ways than one." We agree with him that "life will certainly be simpler when net prices are quoted in the building trade," if ever that millennial period shall dawn. He refers to "an illustrated price list from a company on which is a note that the trade discount is 50 per cent." We think that any discount should be kept within reasonable dimensions.

A Theatre Programme. In producing Mr. Lennox Robinson's new play, "The Big House," the Abbey Theatre, in Dublin, provided with the programme a leaflet illustrating the house with which the action of the play is concerned. The tragedy centres round the hardships endured through successive disturbances by an old Anglo-Irish family who could see the point of view of the various antagonists and hence at once sympathised with and disapproved of each. Being the owners of the big house of the neighbourhood, they were in constant danger of being burnt or blown up, either as a "reprisal" for some act of which they knew nothing, or as a "counter-reprisal" for a reprisal with which they had not been in the least concerned. The idea of illustrating the architecture of the house in question was a welcome novelty and illustrated how closely architectural association is bound up with the tradition and environment of a country.

Felling Trees. One of the disasters consequent upon the coal strike is the disappearance of trees which are being cut down and rooted up on all sides by unfortunate people in search of fuel. England has for years been systematically denuded of trees, and nothing in the nature of replanting on a really adequate scale has yet been undertaken. One can only hope that the trees that are to be the victims of the strike will be cut with discrimination, and that individuals who lose their trees will make a serious effort at replanting.

Mr. H. D. Searles-Wood. That the lasting esteem and affection of one's friends may be a more real satisfaction than spectacular honours must have occurred to some of the friends of Mr. H. D. Searles-Wood, F.R.I.B.A., who were present on Saturday last at a complimentary dinner given to him at the Criterion Restaurant, Piccadilly Circus, W. In any case, there can be but few architects who are so highly esteemed by his confrères or who could have received a more sincere expression of affectionate goodwill. His fairy godmother, so it was stated during the evening, gave him one great gift—the gift of friendship—which for once may have been a misfortune, for his friends are drawn from such wide interests and from so many societies and causes that only a few could be asked to be present, though those happened to be specially representative, and many of them were friends of a lifetime. All spoke in turn of the extraordinary amount of hard work, spread over a period of some forty years, the guest of the evening had carried out, in a quiet and courteous and yet most efficient way, for the architectural profession and for other societies in some way or other concerned with the arts and science of building. It is impossible in a short note to enumerate all these activities, but his fairy godmother comes to our aid, for his work for the Royal Institute of British Architects, the Royal Sanitary Institute, the Institution of Structural Engineers, the Institute of Arbitrators, the City Companies, the Brixton School of Building, and in other ways, is known to and appreciated by his friends who wish—and the wish is not entirely unselfish—that he may be spared for many years to come to carry on such useful work, which is no less valuable because it is accomplished in such an unobtrusive way.



Ballydonal House ("The Big House." *See note on this page***).**

GENERAL NEWS

Professional Announcements.

Mr. Herbert Baines has commenced practice at 342, Lytham-road, South Shore, Blackpool, and will be glad to receive catalogues, &c.

The Deputy Secretary to the Ministry of Health, Mr. E. R. Forber, C.B., O.B.E., has appointed Mr. D. C. L. Ward to be his private secretary.

Whitworth Scholarships.

The Board of Education has issued a time-table of the Science Scholarships Examination and Examinations for Whitworth Scholarships and Whitworth Senior Scholarships, 1927.

New Municipal Offices, Twickenham.

York House, the home of the Duke of York before he became James II, is to be used as the municipal offices of the new borough of Twickenham.

Obituary.

We regret to record the death, on Saturday last, at Broadhurst-gardens, Hampstead, N.W., of Mr. J. D. Forsyth, the prominent artist in stained glass, whose work included windows and other decoration in ecclesiastical, public and domestic buildings, including Westminster Abbey.

A Roof Golf Course.

At Adelaide House at London Bridge part of the roof has been converted into an 18-hole putting course of real growing grass, where comparatively fresh air and exercise can be had. The rest of the roof has flower-beds, trellises, and a summer-house looking on the river, completed with cane tables and chairs.

Plymouth's Ancient Houses.

At a recent meeting of the Plymouth County Borough Council it was resolved that instructions should be issued to the Committee for the Housing of the Working Classes that no scheme be proceeded with involving the destruction of historic buildings in New-street, and, further, that the Council take steps to preserve the buildings concerned in order that they be made into a museum of contemporary life and manners.

Mr. Edward Bell.

We regret to announce the death, from heart failure, at The Mount, Hampstead, on Monday, of Mr. Edward Bell, chairman of the publishing house of George Bell & Sons. The eldest son of Mr. George Bell, who founded the firm when he started in business for himself in Bouverie-street towards the end of 1839, he was born in October, 1844. In art, archæology, and architecture, Mr. Bell always took a keen personal interest. In co-operation with the late Gleeson White and Dr. G. C. Williamson, many notable art works were produced in the '90's and the early part of the present century. To this period may be assigned Mr. Bell's first association with Sir Reginald Blomfield, whose two volumes on English Renaissance Architecture were published in 1894, to be followed some years later by a similar work on the French Renaissance, in four volumes.

Wall Paintings in a Suffolk Church.

Important recent discoveries in Hoxne Church, Suffolk, are described in the St. Edmundsbury and Ipswich *Diocesan Magazine* for November. The walls have been cleaned, and a remarkable series of wall paintings has come to light in the north wall above the arches which separate the nave from the north aisle. These paintings, the article suggests, probably belong to the end of the fourteenth century or the first half of the fifteenth. In addition, the remains of five consecration crosses have been discovered, believed to form a part of a series of twelve painted at intervals round the walls of the church. These crosses marked the points at which the church walls were anointed by the bishop when the building was consecrated. With regard to the wall paintings, it is understood that Professor E. W. Tristram, of the Royal College of Art, who has restored the Primitive Wall Paintings in the House of Commons, may be asked to visit Hoxne to advise as to the preservation of the paintings.

COUNCIL FOR PRESERVATION OF RURAL ENGLAND

SIR,—On July 21, 1926, the President of the Royal Institute of British Architects addressed a letter in the following terms to the bodies mentioned below :—

Dear Sir,—I am now able to report the completion of the preliminary steps for the formation of a Council for the Preservation of Rural England as advocated in my letter of January 12 last. You will recollect that, in that letter, I invited various national organisations interested in the subject from different points of view to appoint representatives to consider what steps it is practicable to take to deal with the growing defacement of the countryside.

Several conferences of the representatives have taken place, and it has been unanimously agreed that the formation of a permanent Council able, as may be necessary, to organise concerted action for the protection of the public interests in rural scenery, is urgently needed. Such a body, by co-ordinating effort, could do much to assist individual societies when combined action is called for, or when constituent members desire support on important matters of general interest coming more particularly within their own province.

I enclose a copy of the draft constitution and, at the request of the Conference, have the honour to invite your Society to nominate two representatives to sit upon the Council it has been decided to form.

It is not contemplated that the expenses of the Council will necessitate any appeal to the public for funds. The use of any office has most generously been offered by the Sir Richard Stapley Educational Trust. It will, however, be necessary to engage a part-time secretary and to incur some expenditure in printing, postages and stationery. An appeal is therefore made to each of the constituent bodies invited to form the Council to make an annual contribution towards these expenses.

I feel sure that you will do what you can in this direction, for there can be no doubt of the imperative need for the new organisation, or of the fact that it is calculated to prove of great value to the movement your Society has at heart.

Yours faithfully,
(Signed) E. GUY DAWBER,
President of the Royal Institute of British Architects.

Royal Institute of British Architects,
Town-Planning Institute,
County Councils' Association,
National Federation of Women's Institutes,
National Trust,
Royal Automobile Club,
Automobile Association,
Urban District Councils' Association,
Central Landowners' Association,
National Council of Social Service,
Garden Cities and Town-Planning Association,
Rural District Councils' Association,
Scapa Society,
Commons and Footpaths Preservation Society,
National Housing and Town-Planning Council.
Surveyors' Institution,
Soc. for the Protection of Ancient Buildings,
Central Chamber of Agriculture,
Country Gentlemen's Association,
Association of Municipal Corporations,
Royal Society of Arts.

Replies have now been received from most of these organisations, which indicate a remarkable body of support for the proposal to establish a new body under the name of "The Council for the Preservation of Rural England." Promises of financial support, ranging from £100 for the first year, offered by the R.I.B.A., down to smaller amounts offered by other societies, have been given.

A draft constitution for the new body has been prepared, and the first meeting of the new Council, consisting of two representatives from each of the bodies interested, will take place at the R.I.B.A., 9, Conduit-street, W.1, on Tuesday, December 7, 1926, at 3.30 p.m. The chair will be taken by the Earl of Crawford and Balcarres, who has from the beginning taken the keenest interest in the enterprise, and Mr. E. Guy Dawber, President of the R.I.B.A., will welcome the representatives and formally move the adoption of the draft constitution. The meeting will be open to the general public.

IAN MACALISTER,
Secretary, R.I.B.A.

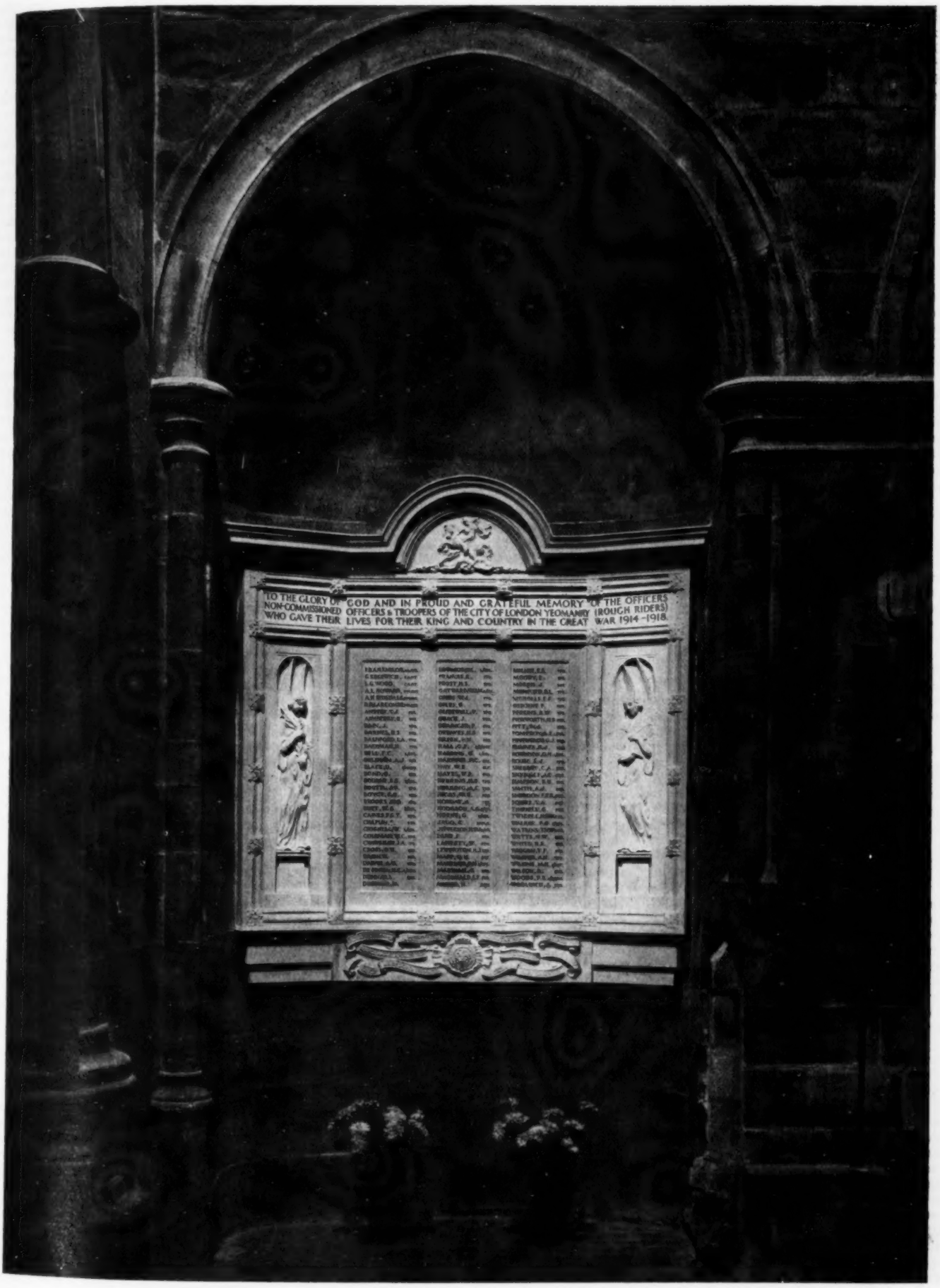
COMPETITION NEWS

General Hospital, Hereford.

The Governors of this hospital invite architects who wish to be included in a limited competition for Hereford General Hospital, and who have special experience in hospital design, to send in their names to Mr. Seager H. Evans, Secretary, Herefordshire General Hospital, Hereford, on or before 10 a.m., November 22. From these names six will be invited to compete. The premiums are £150, £100, £75, and the remainder £25 each. Mr. Charles E. Elcock, F.R.I.B.A., is the assessor.

COMPETITIONS OPEN.

	Particulars		
***Daily Mail* Ideal Houses Competition** in two sections :—(A) houses costing £1,500 ; and (B) houses costing £850. Prizes : £150, £100, and £50. Apply Secretary, Ideal Houses Competition, 130, Fleet-street, London, E.C.4. Mr. E. Guy Dawber, P.R.I.B.A., assessor	published in "Builder."	Sending in date.	
Academy, Perth. Open to architects practising in Scotland. Premiums : £100 and £50. Mr. James D. Cairns, assessor. Apply Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.	Sept. 10	..	Nov. 30
Town Hall Extensions and Public Library Building, Manchester, for the Corporation. Architects of British nationality invited to submit designs in preliminary competition. Applications for conditions should be made to Mr. P. M. Heath, Town Clerk, Town Hall, Manchester, accompanied by deposit of £1 1s., returnable on receipt of *bona fide* designs. Assessors, Messrs. T. R. Milburn, Robert Atkinson, and Ralph Knott, FF.R.I.B.A.	July 23	..	Jan. 1, 1927
Edwin Austin Abbey Memorial Scholarships for Mural Painting. Two Minor Scholarships of £125 a year each, and one Major Scholarship of £250 a year. Candidates must not be over 25 and 27 years of age for the respective Scholarships on December 31 preceding the competition. Apply Secretary, Edwin Austin Abbey Memorial Scholarships, Chelsea Lodge, 42, Tite-street, London S.W.3	Aug. 20	..	Jan. 6
Swimming Pool, Morecambe. Prizes : £100, £50, and £25, and three other awards of £10 each. Apply Mr. J. Entwistle, Town Clerk, by October 30	June 11	..	Feb. 15 and July 1
Civic Improvements, Birmingham, around Hall of Memory. International Competition. Premiums of £1,000 will be awarded author of design placed first. Further sum, not exceeding £1,000, will be divided among other competitors according to assessor's recommendation. Scheme includes : Municipal Offices, to contain City Hall, Public Library, and Lord Mayor's Mansion House. Mr. H. V. Lanchester, F.R.I.B.A., assessor. Apply Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham	Oct. 15	..	—
War Memorial, Rawmarsh and Parkgate. Cost, including fees, not to exceed £2,000. Author of winning design will be invited to act as architect for erection of memorial. Prizes of 10 and 5 Guineas will be awarded authors of second and third designs. Apply Mr. J. A. Tonge, L.R.I.B.A., Surveyor's Office, Parkgate, Yorkshire, W.R.	Oct. 15	..	May 16
Modern furniture design. Competition promoted by *Furnishing Trades Organiser*. Apply Editor, Regent House, Kingsway, London, W.C.2	Nov. 5	..	—
	Nov. 5	..	Jan. 15


TO THE GLORY OF GOD AND IN PROUD AND GRATEFUL MEMORY OF THE OFFICERS
NON-COMMISSIONED OFFICERS & TROOPERS OF THE CITY OF LONDON YEOMANRY (ROUGH RIDERS)
WHO GAVE THEIR LIVES FOR THEIR KING AND COUNTRY IN THE GREAT WAR 1914-1918.

City of London Yeomanry ("Roughriders") Regimental War Memorial, St. Bartholomew's the Great, Smithfield, E.C.

(*See page* 774.)

MODERN ARCHITECTURE

Mr. H. G. Watkins, F.R.I.B.A., recently delivered a lecture on this subject before the Thoroton Society, at Nottingham. The lecture was illustrated by a number of lantern slides, and the speaker said that as a general rule he had taken good examples of modern architecture. He had to admit that there was a good deal of indifferent if not bad work done, but he would ask—what was the architect to do with his bad work? He supposed that one could hardly find an eminent artist, sculptor or author who had not during his career perpetrated one piece or more of bad work. But a brush and a few daubs of paint soon eliminated a bad picture, a hammer would do the same for the sculptor, and the fire was always at hand for the author's rejected work. But what was the architect to do with his bad work? There it was in brick and stone for everyone to see and to haunt him for the rest of his days, for he was sure that the practice of architecture was by no means sufficiently lucrative to allow the architect to pull his bad building down and replace it by one more in accordance with his matured experience and taste.

That architects made mistakes years ago as well as to-day was shown by a tale told in "Farington's Diary," 1809, concerning Sir Marmaduke Wywel's house in Yorks. Carr was to make some small alterations for £1,500, Sir Marmaduke to go to Scotland, and work to be finished on his return in five months. When he returned, as he approached by road on horseback, the house was not to be seen—only the lower parts of the walls and some scaffolding. Sir Marmaduke went off to Carr, who explained that he had sent workmen to take down a small portion, but they had misunderstood his instructions and pulled down the whole. The cost to him was £10,000 (a large sum in those days) to build another house.

There was no doubt that during a portion of last century we passed through a period in which the general average of architectural design in this country was not of a high order, the trough of architectural depression probably having been reached in the 'sixties and 'seventies of last century. Since then, however, there had been a gradual revival, and he was hopeful that, in course of time, a style or manner of architecture would be evolved based on the new methods of construction which would resist artificial revivals and passing fashions, and become the full expression of our civilisation and the needs of our time. It was not to be expected that architects could do this in a year, or ten or even twenty years. If they only considered the relatively slow progress and development of past styles, some of them taking centuries to reach maturity, they would see that even in these days of rapid progress, an art such as architecture could not be forced like a hot-house plant: it must be a plant of natural growth and slow maturity.

That an archæological body like the Thoroton Society should ask him to speak upon the subject of "Modern Architecture" he took as one of the signs of an increased interest in the art, and strong evidence that even though the Society's primary objects were to promote the study of the history and antiquities of the shire, yet it had a sufficiently broad outlook to aid not only in the preservation of buildings of historical and archæological interest, but also to take an interest in the amenities of our towns and country. That an increasing interest was being evinced by the public in questions affecting the amenities there was proof on every side, so much so, that a layman had recently written a book, "The Layman's Views on Modern Architecture," and in that book there was one little paragraph which seemed to him to be a very severe, but, he feared true, indictment of our present lack of attention to the amenities. The paragraph was this: "It is a melancholy fact to note that when the inhabitants of a town in these islands discover a district of peculiar beauty in the neighbourhood of a town and decide to build their houses and live there, the first thing they do is to spoil it." Could we say that that was not true? Look around Nottingham. The charming old village of Wilford was almost ruined because of the horrible type of many of the modern houses erected there, to say nothing of the monstrous new electric power station on the other side of the river. No doubt Lenton used to be a pretty village, but he had never seen it before it was submerged by the town, so could not be certain. If we were not careful, Wollaton would go as well. He recognised that towns must grow, but was there any reason why they should grow ugly? The reason, he believed, was that recently expressed in a leader in the *Morning Post*, with reference to Regent-street, which ended thus: "The inhabitants of Paris cherish the extraordinary idea that the amenity and beauty of a city are the affair not of a few private individuals (however worthy) but of the whole community. They have even appointed a Minister of Fine Arts, whose business it is to see to this matter. In England, it is nobody's business."

Perhaps the greatest change associated with modern architecture, continued the speaker, was that in the treatment of the housing of the working classes. There were streets in Nottingham of the Victorian speculating builder period—dull, depressing and monotonous to the last degree—and he need hardly say that no architects were employed. The lecturer then showed some houses of the post war era, not the best that he had seen, but a fair average, and showing a great advance. On principle, he was opposed to the State and public authorities spending public money in millions on financially unsound housing schemes, and what would happen when the shortage of houses was overtaken he did not know, but at least he could not conceive us drifting back to the dreadful type of street of pre-war days. It was necessary, in his opinion, that there should be control of the speculating builder as to how land was developed and the character and design of houses to be erected. In the large cities in Germany no subsidy was given unless an architect was employed.

Dealing with modern methods of construction, the speaker contrasted the steel-frame method with the Gothic, in which flying buttresses were not a mere architectural ornament but a structural necessity to resist the thrust of the vaulting behind them. No architect had so far attempted to design a building showing the steel frame naked and unclothed, and for two reasons, (1) that it would not be building at all but mere engineering, and (2) because the brick and stone casing of the steel frame actually answered a very necessary purpose in that it preserved the steel from the action of the weather, and we now recognised that the maxim "Build in Truth" could be carried too far. Just as the earliest motor cars showed little change in design from the horse-drawn vehicle, so the earliest steel-frame buildings differed little in treatment from the orthodox masonry building. Sir John Burnet, however, being given the commission to design a steel frame building in Kingsway, for Kodak, Ltd., decided that, although he must clothe his steel frame in stone, he would express the idea of the construction in his design. He, therefore, produced what had proved the prototype of many designs based on a similar motif; that was, strong vertical lines regularly spaced to clothe the vertical stancheons and broad bands between the windows expressing the horizontal members of the steel frame. Although the building looked somewhat thin and flat, an effect accentuated by the lightness of the main cornice, it was quite a good beginning towards the solution of a difficult architectural problem. Since then the same architect had developed the same theme in another great steel-frame building, Adelaide House, near London Bridge. The whole facade was treated as a diaper and the building relied for its architectonic effect purely upon its mass and the effect of great scale given by the repetition of its component parts. The building had a distinctly Egyptian feeling, and again the architect had been dominated by the idea of truthfully expressing the steel frame construction.

In another steel frame building, that for Messrs. Heal & Sons, Tottenham Court-road, it was interesting to note the added architectural effect obtained by the use of the "row" principle as they called it in Nottingham, an architectural feature which they ought to make every effort to preserve, and even extend, in that city. In the case of Heal's the architect appeared to have made his steel frame follow his design, and to have broken away from the usual equal divisions, and the result was a distinctly pleasing façade for a modern commercial building.

Showing a slide of Long-row, the great market place in Nottingham, the speaker described it as a fine example of the "English Haphazard School of Architecture." He was not showing this simply to pour scorn on the market place, for there were many streets in all our cities equally as haphazard, but he did want to point out that until there was some control the haphazard style would continue. Sooner or later, he thought, we should have to set up in our cities Fine Art Commissions something on the lines of those in some of the American cities, and the City of Bath was, he believed, already doing this. At present each owner of a comparatively small frontage went his own way, the result being a hopeless jumble of stone, brick and terra-cotta buildings in every conceivable style, the whole effect of the row being spoilt by the varying levels of the arcade and different treatment of the columns and piers, and to add to the general confusion nearly every building plastered over with lettered advertisements, each shouting its loudest. He did not advocate that the whole of Long-row should be one uniform building, but suppose that instead of those comparatively short frontages it happened that from Queen-street to Market-street there had only been, say, three owners instead of a dozen, there might have been three fine buildings, each bearing some relationship to the others, and it was that this relationship should be considered that he advocated some form of Fine Art Commission provided that it was a small competent body and not in the hands of the City Council which, to be frank, knew little about art and architecture.

Having shown slides and given descriptions of a number of modern buildings, English and foreign, the speaker said he would finish as he began, by repeating that the character of our architecture, after all, really depended upon the character and mode of life of the people to-day. If they were satisfied to have the principal streets of their cities a jumble of buildings, each put up with little regard to its neighbours and the amenities of the street; if they were satisfied to allow them to be covered with any amount of blatant advertisements, and to have the air of our cities polluted to such an extent that it was almost impossible for us to introduce colour into our buildings; if they were satisfied to have our suburbs and the countryside disfigured by speculating builders' houses, hideous garages and great flaming advertisement boards; then, architecture, not being given a fair chance, would suffer; but if the public took an interest in all these things and refused to tolerate them and demanded good architecture only, then there was ground for much hope.

Windsor Castle Approaches.

The Windsor Town Council have approved a scheme for the improvement of the approaches to Windsor Castle. The central feature of the scheme is the widening of St. Alban's-street by throwing back the boundary wall of the Castle on the east side and the demolition of a group of buildings at the junction of Park-street and St. Alban's-street. It is suggested that by the carrying out of the scheme a one-way traffic system could be adopted, thereby relieving High-street of the congestion at present experienced, particularly in the neighbourhood of the Town Hall. The Crown authorities are willing to co-operate in the scheme, and it is thought that it will go through. If the scheme is carried out it will make another splendid approach to the Castle from the famous Long Walk.

CHARING CROSS BRIDGE

PROPOSED ROADWAY ADDITIONS AND HIGH-LEVEL APPROACH ROADS.

By ERNEST LAW, C.B.

It is scarcely necessary at this time of day to emphasise the imperative need of bridge facilities at Charing Cross to deal with the ever-increasing traffic of oil-driven vehicles, carrying goods and passengers—chiefly the latter in the western parts of the town—from the Middlesex to the Surrey side of the river and vice versa. Nevertheless, I may set down here the following facts relating to omnibus traffic of the London General Omnibus Company.

Of some 6,000 omnibuses of that company passing every day through Trafalgar-square, making their way, in both directions, over the bridges crossing the river connecting the City of Westminster with the Southwark side, 1,000, broadly speaking, pass over Waterloo Bridge; another 1,000 over Vauxhall Bridge: and 4,000 over Westminster Bridge. It is obvious, then, that bridge facilities at Charing Cross would afford great relief to the traffic, especially over Waterloo and Westminster Bridges. Mr. Frank Pick, Assistant Managing Director of the London General Omnibus Company, in giving evidence before the Royal Commission on Cross-River Traffic, said that a bridge at Charing Cross "would have an immediate traffic of 2,434 'buses a day, and Waterloo and Westminster Bridges would be relieved of an equivalent burden. . . ." He thought it "better to distribute traffic over a large series of bridges, each with four lines."

To remove the present Charing Cross Station of the Southern Railway, with its lines, cross-overs, and hotel—"the whole show," in fact—to the other side of the river, and to build a new stately bridge for traffic other than railway traffic, would be enormously expensive, and open to objections from the point of view of railway traffic into London. What possible chance is there of its being carried out within a reasonable period of time? The requirements will not be met or the difficulties overcome by enlarging any of the existing bridges. It is an axiom with those who deal with modern town traffic that frequent bridges of moderate width are to be preferred to few bridges of great width, because by permitting of a wider distribution of the traffic, they avoid congestion.

There are other schemes. One is for building a high-level sort of double-deck bridge over the existing bridge, which would not serve traffic at the level of the Strand nor into Northumberland-avenue, but would be enormously costly and hideously unsightly. Another is to build an entirely independent bridge a little lower down the river. This would likewise be exceedingly costly, and would, I imagine, be objected to on the ground of adding to the difficulties of navigation at a very awkward point, apart from other minor objections. Yet another is to build a bridge side by side with the existing railway bridge, to take its place when the old bridge should be pulled down.

Why not leave the present bridge and station where they are, and build no new bridge at all; but simply attach to each side of the existing bridge roadways of sufficient width to carry the ordinary traffic of the streets—say, about 24 ft., sufficient for two lines—one addition for traffic from Middlesex to Surrey, the other for traffic in the reverse direction? Where, indeed, can one-way traffic be resorted to with less objection than on bridges, where there are no shops or houses to serve, and no cross traffic to check a continuous flow of vehicles in one direction? How these additions could best be made is a question for engineers. I suggest that the simplest method would be to carry them on cantilevers, supported on the existing cylindrical piers, strengthened or added to, thus causing no additional obstruction to the navigation of the river. It is obvious that this method of dealing with the problem would be immensely cheaper than any other.

Incidentally, the parapet could be so designed as to screen the hideous latticed girders of the present bridge, giving to what is now the greatest eyesore on the river a fairly presentable appearance. The carrying out of the details and the factors of construction are matters for engineers and architects, but I have been assured by many high authorities that there are no engineering constructional difficulties involved in my proposition. An architect friend has kindly gone into this question for me. I append to this statement his design and plan for carrying out my proposals.

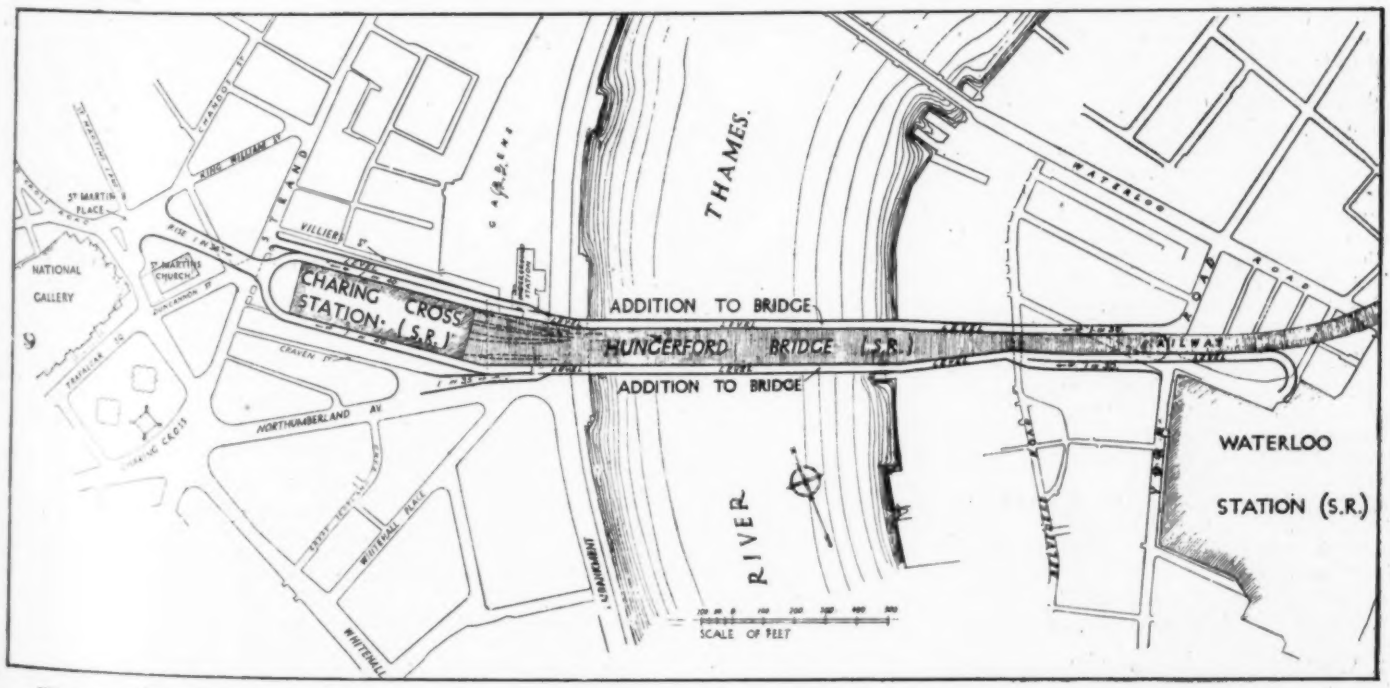
A bridge, however, is of little, if any, use unless the approaches to it are convenient and adequate, and on easy gradients. I have, therefore, gone fully into this side of the problem, as being equally important as, if not more so than, the bridge itself, and I venture to think that, from this point of view, the approaches which I shall proceed to suggest meet the requirements of cross-river traffic as well as, if not better than, any other of those already proposed.

Dealing first with the approaches on the Middlesex side. I make provision for traffic on three levels: that on the Embankment level at the bottom of Northumberland-avenue; that on the Strand level; and that at the high level at St. Martin's-place. In selecting the exact directions for these approach roads I have had in mind throughout the taking of as little valuable property as possible, and the using, as far as possible, of existing roads and unbuilt-on ground.

For the road level of the proposed attachments to the existing railway bridge I take that of the railway lines, which is almost exactly the same as that of the Strand. The bridge additions proper finish at the edge of the Embankment, where the approaches may be considered to begin. These, of course, would be supported from the ground. Once across the Embankment, the roadway—say, 24 ft. in width, though it might easily be wider—down to Craven-street and Northumberland-avenue would begin to decline, at a gradient of 1 in 35 to the end of Northumberland-avenue, and of 1 in 40 to the end of Craven-street, as shown on my plan. The taking of part of the site of the Playhouse would seem to be essential.

From the same point—on the western side of the Embankment—the high-level road would begin to rise, at a gradient of 1 in 40, being carried close up alongside the south-west wall of the station buildings, over ground mainly occupied by yards and sheds, and part of Brewer's-lane, until it reached the forecourt or station yard, when it would be carried, as shown on the plan, on a bridge over the Strand, at a level of 21 ft. above the roadway, and thence, by a gradient of 1 in 35, downwards to the top of St. Martin's-place, opposite the Cavell Memorial, and facing the end of Charing Cross-road and St. Martin's-lane.

From this point a similar road may be considered to start, rising to the Strand on the same gradient of 1 in 35, and crossing it at the same level as, and side by side with, the other high-level road, but diverging from it after having crossed the Strand bridge. It



Plan by Mr. Ernest Law showing his proposed Roadway Additions to Charing Cross Railway Bridge and High Level Approach Roads.

would then be continued alongside of the north-eastern wall of the station, involving the removal of the north-east wing of the hotel, and the refreshment rooms, carried over ground only partly built on—at the same gradient of 1 in 40 as the high-level road on the south-west side of the station—similarly leading to the Victoria Embankment, where it would pass straight on to the addition on the north or down-stream side of the bridge.

Side by side with this, occupying the rest of the west side of Villiers-street, would run another roadway, leaving the Strand at the level, and continuing at that level, parallel to the high-level road, merging into it just at the Embankment, and so passing on to the addition to the bridge. It would take ground now partly semi-waste and partly occupied by buildings of one story, such as Gatti's Restaurant, and a few booths. It would, in effect, be a sort of causeway, the arches of which would afford accommodation for small shops, etc., which would be reached from Villiers-street. There would be a similar causeway under the high-level road, affording accommodation for shops, lock-ups, etc., reached from the low-level road. It would probably be well to close the way leading from the bottom of Villiers-street under the railway, and carry it straight down to the Embankment.

Now, as to the roadways on the Surrey side of the river. Taking first the roadway that begins at the end of the south-western or up-stream addition to the railway bridge: this, being already at the high level, can be carried over Belvedere-road and York-road right into the cab-yard of Waterloo Station, at the level, so that traffic could pass straight out of the station all the way on the level until it reaches the western side of the Embankment, where the gradient of 1 in 40 begins, to cross the Strand, and so on to St. Martin's-place. The ground to be traversed from York-road to the foreshore is only partially built upon, and all the property is of low value, including the sheds of the Wellington Wharf and its landing stage in front of the foreshore. A spur road, of course, could be made up to this high-level road from York-road.

Taking now the roadway that begins at the end of the north-eastern or down-stream addition to the railway bridge: the property to be traversed is not of a high grade, excepting the stores of Younger's "Scotch Ales," much of it, besides the foreshore, being unbuilt on, and offering much scope for recoupment. This road cannot, however, be carried at the high level into Waterloo Station because the railway lines of the Southern Railway interpose. The only satisfactory way of dealing with the problem is to bring this road across Belvedere-road down to the level of York-road, by a gradient of about 1 in 30. This would involve the cutting of a new road, or rather, the widening of the lower end of Sutton-street, at a trifling cost, as it would only mean the acquisition of about a dozen small cottages. Thence, the access to Waterloo Station would be straight across York-road, up the usual way.

As to which addition to the Bridge is to be used for one-way traffic from Middlesex to Surrey and vice versa: this is the merest detail. The advantages are conflicting; but probably the importance of traffic convenience at St. Martin's-place would decide that the easternmost road should be used for Middlesex to Surrey traffic, and the westernmost road for Surrey to Middlesex traffic.

To sum up:—This scheme

1. Would leave the railway, with its sidings, signals, etc., substantially as it is, and admit of its traffic being carried on without interruption.

2. Could be carried out forthwith.

3. Would disturb little, if any, of important or valuable properties.

4. Would largely improve all the properties interfered with.

5. Could yield all the cost of taking lands, houses, etc., in recoupment.

6. Would cost from one-tenth to one-fifteenth of any other scheme.

7. Would add no further obstruction to the navigation of the river.

8. Would screen the unsightliness of Charing Cross Railway Bridge.

9. Would afford all the traffic facilities demanded.

10. Would give access to the bridge additions from three levels on the Middlesex side.

11. By its high-level roadways, with one-way traffic, would give a swift, straight, uninterrupted run between Waterloo Station (with the Waterloo-road) and Piccadilly, *via* Green-street and Leicester-square, and to Oxford-street, *via* Charing Cross-road.

A collateral, but to many an equal, recommendation for my scheme should be its doing away with any need for widening Waterloo Bridge, which, unaltered and unimpaired, might stand indefinitely as Rennie designed it. To widen a bridge in order to make a broader roadway would be to "lower in appearance the height of the bridge, to make darkness where light was, and to give us heaviness where once was stern, clean grace." Let us Londoners, at all hazards, prevent such an unnecessary piece of disguised vandalism. That Waterloo Bridge can be successfully under-pinned—thereby saving the enormous cost of a new one, which would probably be an ugly one into the bargain—is an opinion expressed by many competent engineers. Repaired and strengthened, our great, noble and beautiful monument—"the finest bridge in the world"—might stand for centuries, the pride of every Englishman and the admiration of all who visit the capital of the Empire.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The Statutory Registration of Architects.

SIR,—Mr. Appelbee demonstrates the sincerity and earnestness of his purpose by the amount of detail with which he backs up his argument. From my point of view he is beating the air, and I will ask him to excuse me from joining him in that pastime, and to allow me presently to send him a copy of the Bill, which, I trust, will make clear to him the objects of its promoters.

Your other correspondent, Mr. Sockett, proclaims himself the self-constituted champion of the isolated practitioners. If amongst these there are any architects who are beginning to feel the draught, no doubt they will be grateful to a member of another profession for his disinterested kindness in providing them with a windscreen.

If Mr. Sockett will read my letter published in your issue of October 8, it may supply an answer to his present inquiry, and I will see that a copy of the Bill is sent to him as soon as it is made public, if he will be so kind as to let me have a note of his address.

C. MCARTHUR BUTLER,
Secretary of the R.I.B.A.
Registration Committee.

Building Stones and the London Atmosphere.

SIR,—The lecture and debate on "The Job," reported in a recent issue of your paper, and also your articles on "The Durability of Building Stone," make one wonder if the best stone is being used for London. At the R.I.B.A. meeting, one speaker voiced the opinion that if the Portland stone elevations were kept systematically washed down our buildings would not have the soot-laden look they now have, and also the durability of the stone would be greatly enhanced. This is true. One has only to look at the old Fire Brigade buildings, which are frequently washed down, to see how well-preserved the Portland stone is.

In his geological lecture, Mr. Edgar Morton regretted that so much Portland stone is used in London. It would be very useful to know what stone he would suggest to replace it. He says: "The apparently clean surface which it presented was partly due to the constant dissolving away of the face of the stone by acidulated rain-water." This, I think, hardly agrees with the facts. I have seen buildings taken down in London that, erected over 100 years, still had the chisel marks upon the face of the stone, though, of course, not the top bed of a projection.

I think the life of Portland stone would be greatly lengthened by keeping the top beds of all projections covered with lead or asphalt, as is now being done with most large new buildings.

The chief building stones used in London are:—1, Portland; 2, Bath; 3, Darley Dale and red sand-stones. Portland stone, in my opinion, is the best, and Bath second, if the top bed is protected and there are no projections. Some of the softer red sandstones stand fairly well. Darley Dale and similar stones do not, in my experience, resist the London atmosphere very well. In many of our old buildings the Portland stone is in better condition than the granite used in the same building. This is from my personal observations, spread over twenty years.

"MASONRY DRAUGHTSMAN."

"Andirons."

SIR,—One rarely sees funny stories in *The Builder*, but here is one which I think ought to be placed on record. I am reminded of it by Professor Lethaby's article on "Cast Iron."

I was discussing fireplaces with a North Country client and suggested that an open fire would look better with andirons and logs than with the iron basket and coals which were there at the moment.

"Andirons," he said, "why I have got lots of them." I looked around, but could see nothing like an andiron, and then (being on rather good terms with him) I said, "Why, I don't think you know what an andiron is. What is it?"

"Andiron! Why, its one of those little pairs of tongs you pick up the bits of coal with!"

J. REGINALD TRUELOVE.

An Unknown Devil.

SIR,—Mr. Monro S. Orr, the well-known artist and book illustrator, writes to me as follows:—

"Dear Sir,—On which of the English Cathedrals is there a stone carved figure of Satan? It is said to be a very good Satan. The late Queen Victoria is said to have ordered its removal, but the Prince Consort suggested sawing off the horns and calling it 'An Unknown Saint.'"

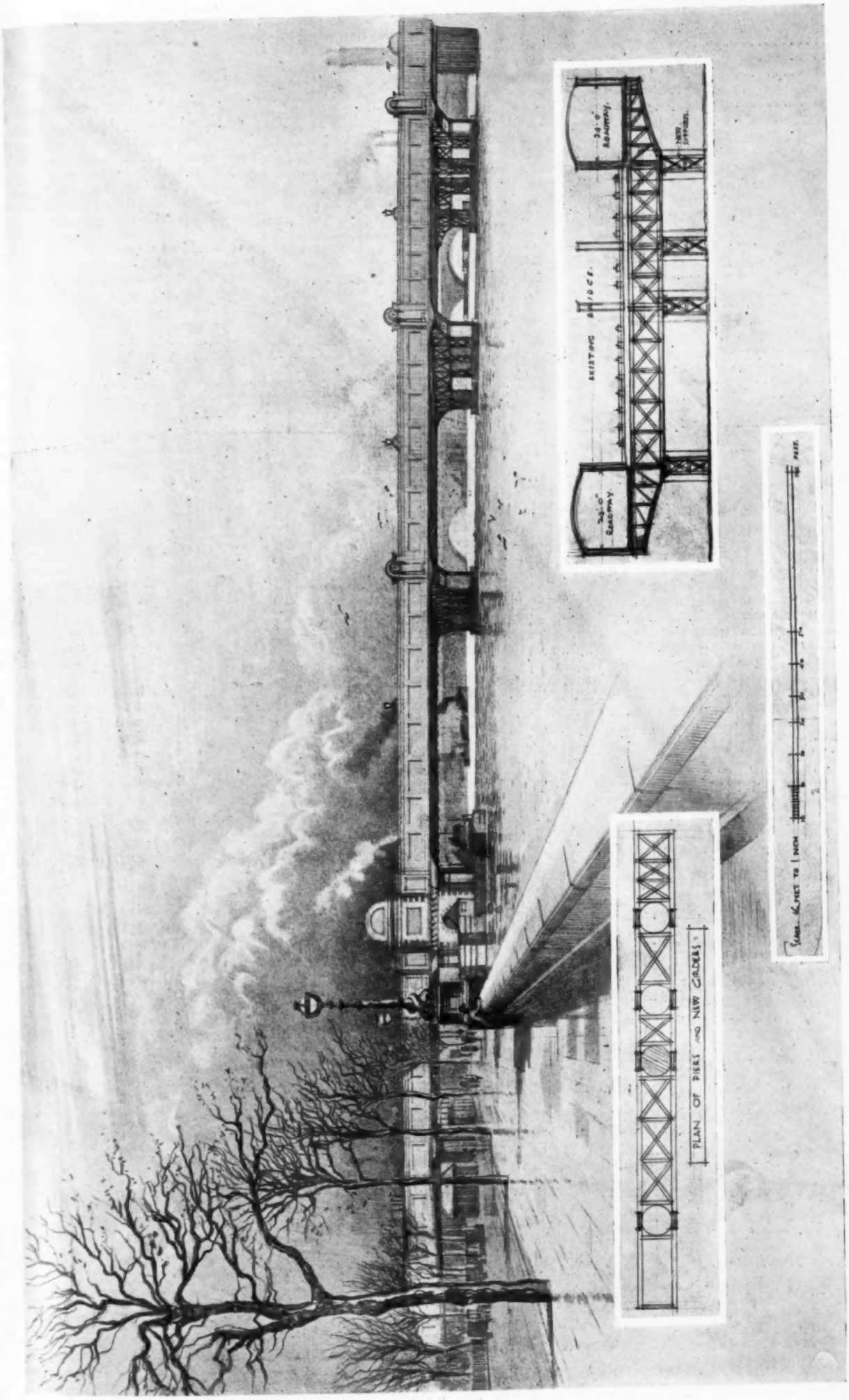
I should take it as a very great favour if one of your many learned readers could answer Mr. Monro Orr's question, as I have not heard this story before. W. D.

Establishment Charges.

[REPLY TO "DOUBTFUL," OCTOBER 22.]

SIR,—The two replies to the query raised by "Doubtful" in your issue of October 22 are interesting, more so in view of the fact that a similar question was asked and answered in a recent issue of one of your contemporaries, in which it was contended establishment charges do not cover nor include National Health and Unemployment payments.

Moreover, it was observed that in ascertaining contractor's *cost* an allowance of 2 per cent. was included to cover these weekly disbursements, and that these figures (as analysed) DO NOT INCLUDE for PROFIT, ADMINISTRATIVE or OVERHEAD CHARGES, Fire Insurance, &c. It would, therefore, appear quite in order when preparing an account "cost plus percentage," to include these National Insurances in the cost before adding establishment charges, and last but not least profit. In view of conflicting statements, it would be most instructive to have some definite ruling from, say, the Surveyors' Institution, or some such equally authoritative source. ONLOOKER.



A Suggestion for Proposed Roadway Additions to Charing Cross Railway Bridge. By Mr. Ernest Law.

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ILLUSTRATIONS

Royal Victoria Hospital, Belfast.

A description of the extensions which have been made to this hospital from the designs of Messrs. Young & Mackenzie is given on p. 786.

Burnley Building Society's New Head Offices.

This design, submitted in a limited competition, was selected by the assessor, Mr. John H. Woodhouse, F.R.I.B.A. The site has frontages to three streets and is at present occupied by the Society's existing offices and cottage property, the whole of which is to be demolished to make way for the new building. The business of the Society will, however, be carried on in their present offices during the reconstruction period, and to make this possible it was stipulated that the new building should be capable of erection in two sections. The rear portion which covers the part of the site now occupied by cottages is to be first carried out, and, when completed, the Society will enter into occupation, and so allow of their present offices being pulled down and the second portion of the scheme proceeded with. It was, therefore, essential that the first portion erected should, as far as possible, take the form of a complete office building, and this necessity largely influenced the general planning and design of the structure. The drawings show how the authors of the selected design have dealt with this somewhat unusual problem.

The architects, Messrs. Briggs & Thornely, FF.R.I.B.A., of Liverpool, now have the contract plans in hand, and it is hoped to make an actual start with the work in the early part of next year.

Hill Church, Sutton Coldfield.

The organ of this church with its case and decorations constitute the Parish War Memorial. The case and the reredos were made by Mr. Isaac Langley, builder, Tyburn, near Birmingham. The carvings were executed by the King's Heath Guild; and the gilding and colour decorations by Mr. Charles Godfrey Gray, of Cambridge. Mr. F. Jackson, of Ealing, painted the figure panels; Messrs. Harvey & Ashby, of Birmingham, executed the window; and Messrs. Powells filled the altar front with opus sectile mosaic. The King's Heath Guild also provided the modelled plaster decorations.

Mr. C. E. Bateman, F.R.I.B.A., was the architect.

New National Provincial Bank, Chelmsford.

This building has been recently completed at Chelmsford for the National Provincial Bank from designs by Mr. F. C. R. Palmer, F.R.I.B.A., F.S.I., surveyor to the Bank, and Mr. W. F. C. Holden, F.R.I.B.A., assistant surveyor to the Bank. The general contractors were Messrs. Potter, of Chelmsford. The stone-work was executed by the Bath and Portland stone firms; the carving and fibrous plaster by G. & A. Brown; the metal windows and lead lights by George Wragge, Ltd.; and the bronze plates and lettering by J. & R. Pearson. Messrs. Pertwee & Howard, of Chelmsford, acted as joint architects with the bank's surveyors.

Vale of Clwyd Sanatorium, Llanbedr Hall, near Denbigh, North Wales.

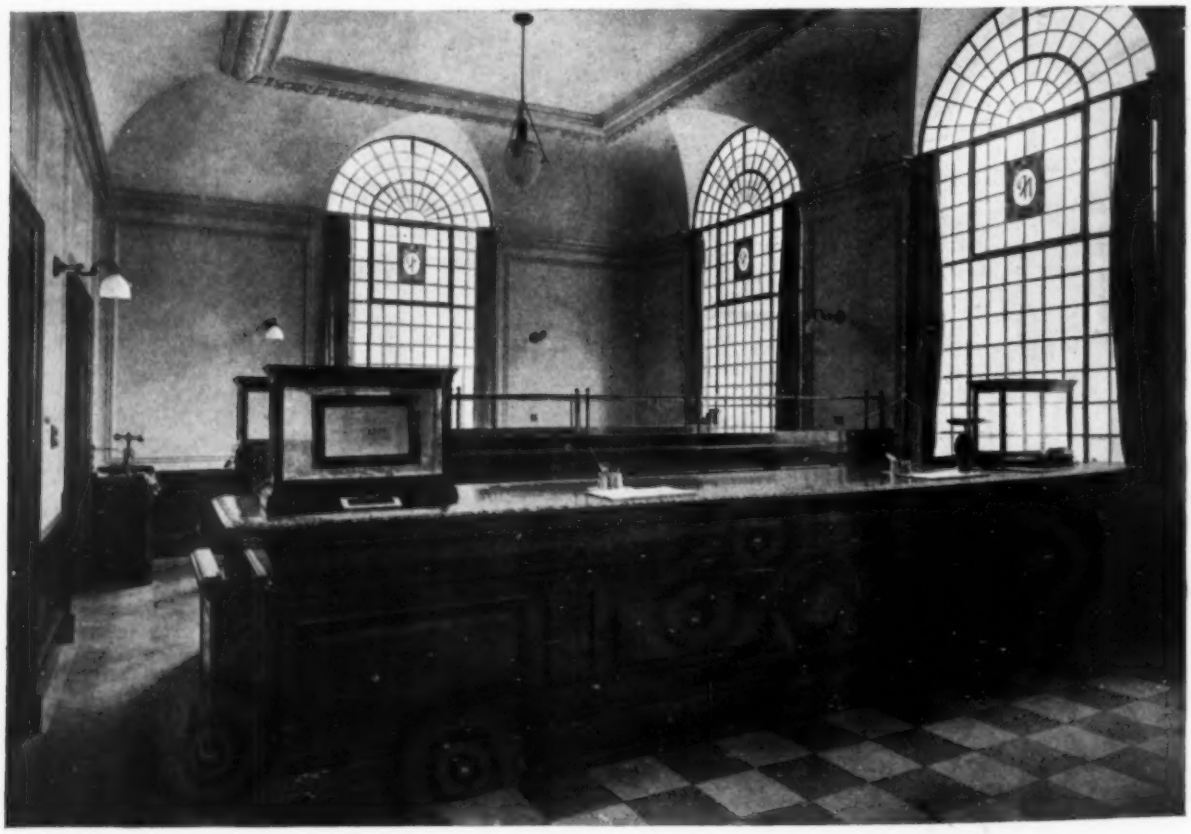
This building provides nine private wards on two floors, with large glazed folding screens opening on to wide verandahs, which are protected from the sun by pinoleum blinds. On both floors there are sink rooms, lavatories, linen cupboards, &c., and direct access to the operating theatre is provided by means of a bridge connecting the new building with the old. The walls are of brick faced externally with rustics; the roof is slated. The construction is fireproof throughout. The floors are finished with "Granwood" patent blocks, and walls are plastered and painted.

The architects were Messrs Rees & Holt, FF.R.I.B.A., of 64, Rodney-street, Liverpool.

The general contractor was Mr. John Hughes, of Wrexham, the sub-contractors being as follows: Heating and hot water, Saunders & Taylor, Manchester; electric lighting and bells, The Economic Electric Co., Birkenhead; sanitary goods, Musgraves (Liverpool), Ltd., Cook-street, Liverpool; patent flooring, Granwood Flooring Co., Ltd., London; and folding screens and blinds, Sefton Lift and Shutter Co., Liverpool.

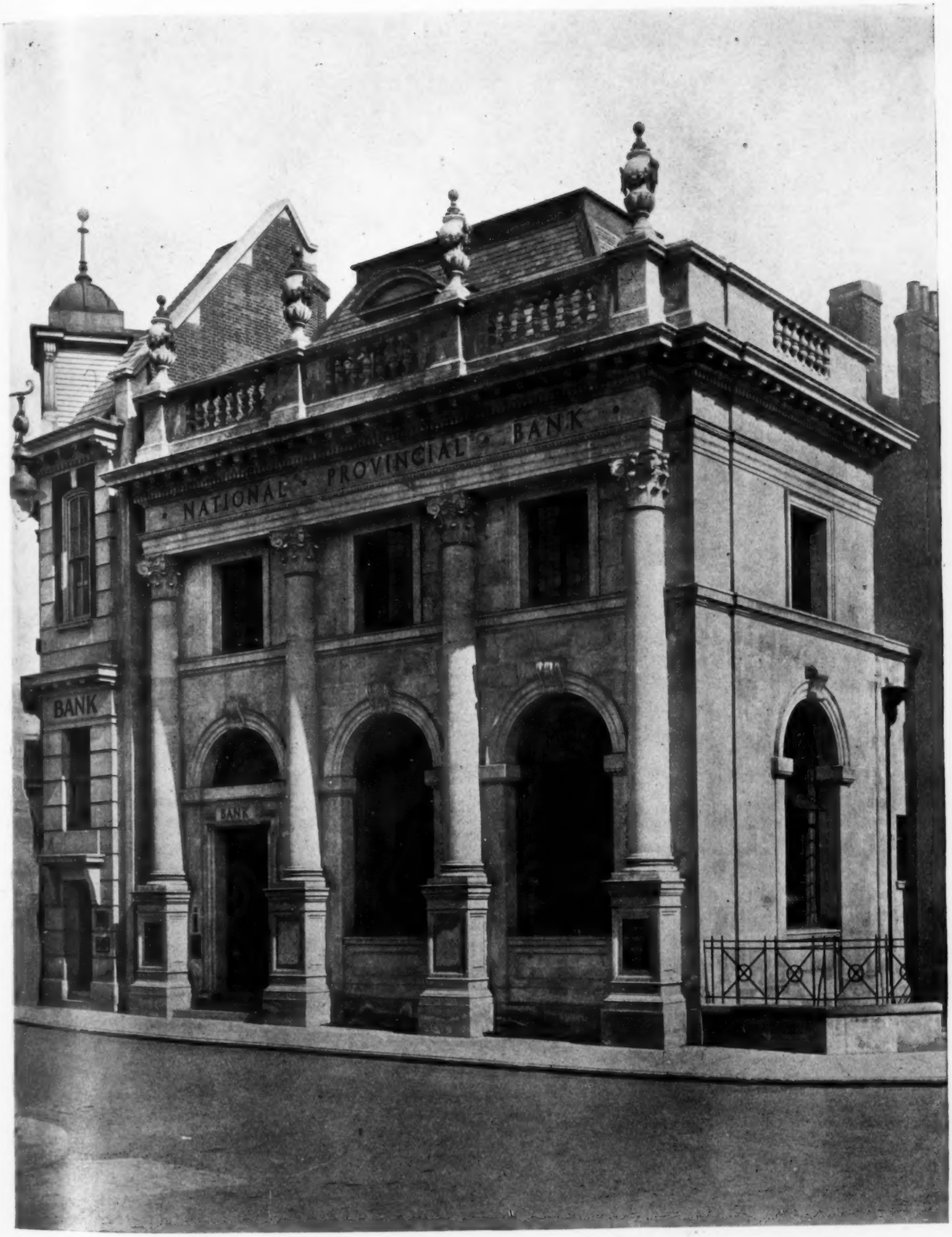
"Roughriders'" War Memorial.

This memorial to the City of London Yeomanry (illustrated on page 769) was recently unveiled in the Church of St. Bartholomew the Great, Smithfield, by Lieut.-General Sir William Peyton. The tablet, which is situated in the wall of one of the eastern apses of the chapel, is of stone; and under a carved device representing St. George and the Dragon are the names of 120 officers and men of the regiment who fell in the war. The sculpture is the work of Messrs. Maile & Son, Ltd., whose designs were submitted for approval to Sir Aston Webb, who is hon. architect to the church.



The National Provincial Bank, Ltd, Chelmsford: Banking Hall.

MR. F. C. R. PALMER, F.R.I.B.A., F.S.I., and MR. W. F. C. HOLDEN, F.R.I.B.A. (Surveyor and Assistant Surveyor to the Bank respectively), and MESSRS. PERTWEE & HOWARD, Joint Architects.



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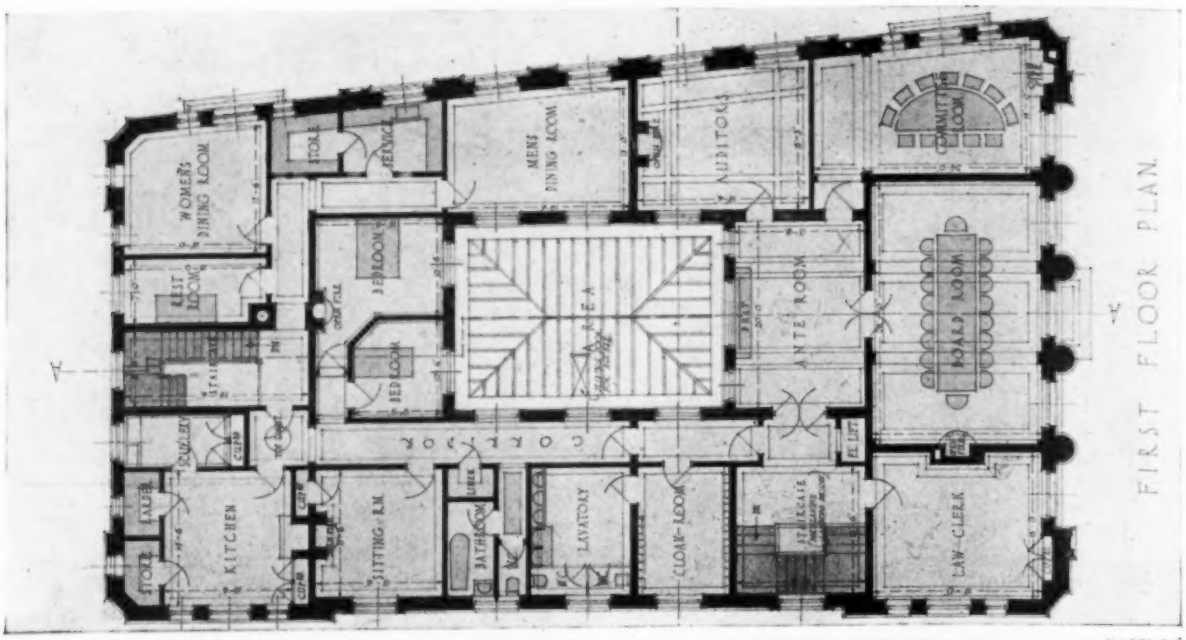
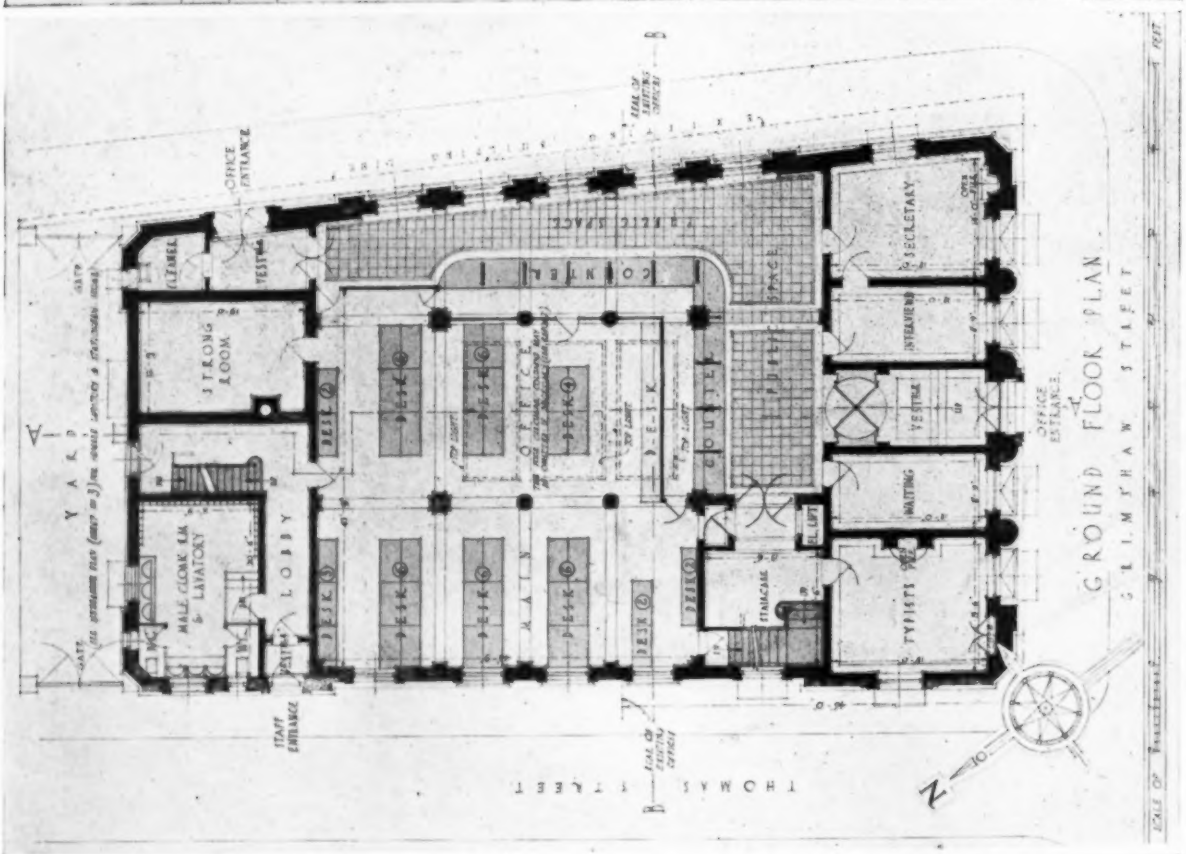
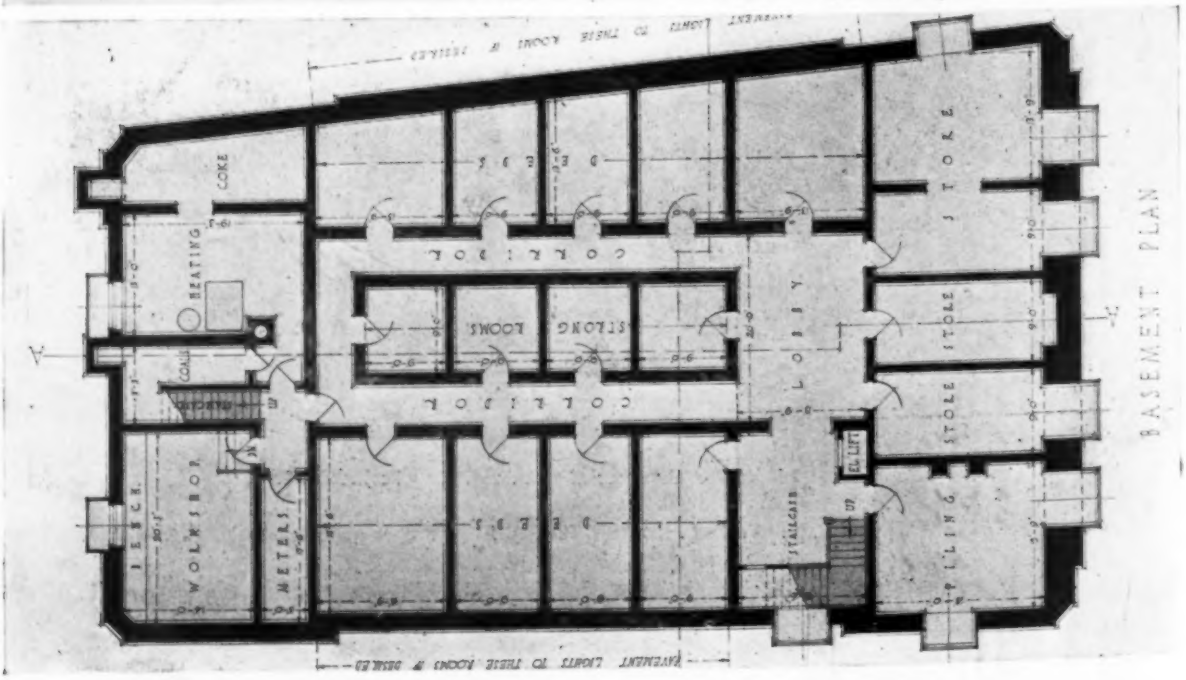
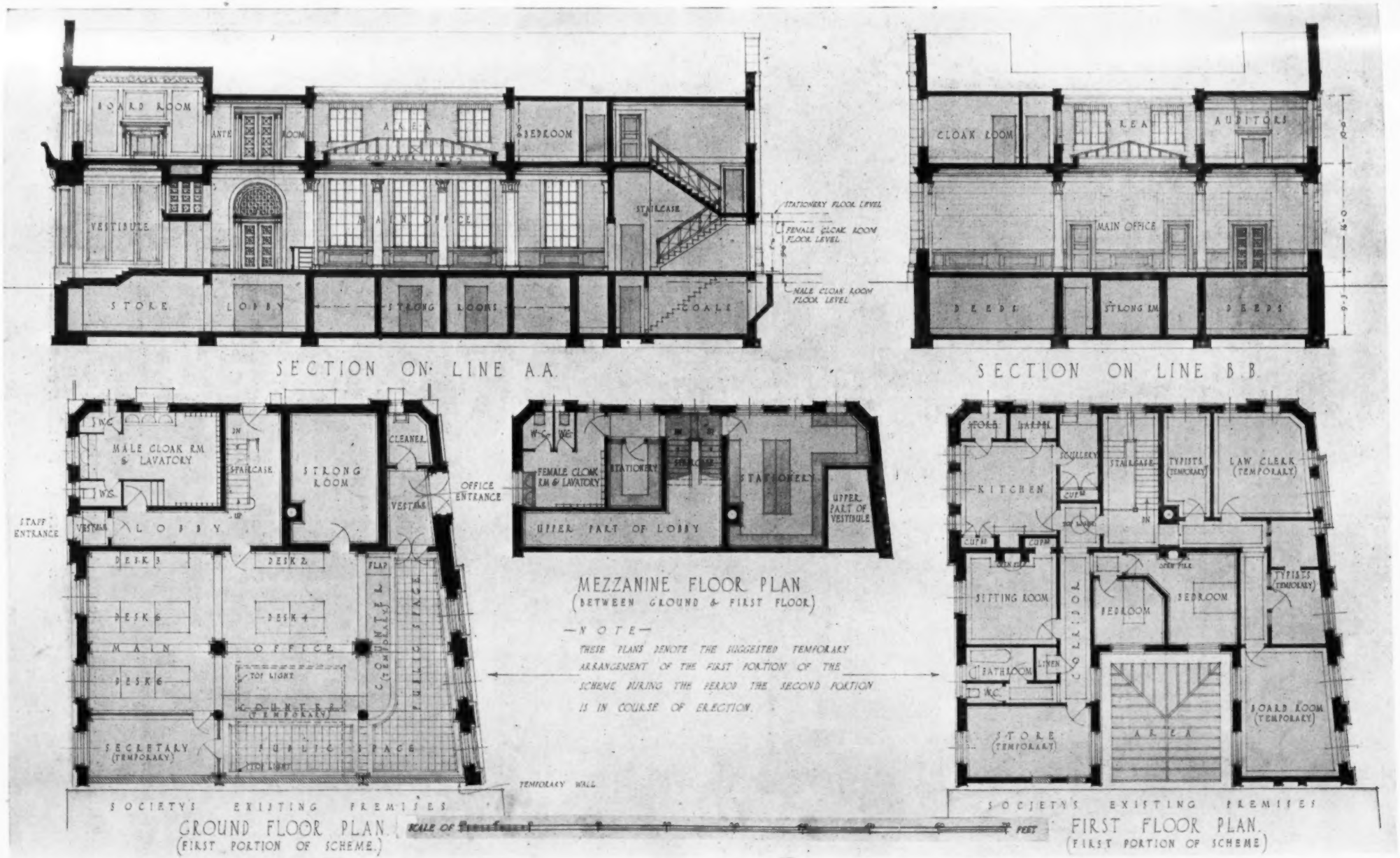






Proposed New Head Offices for Burnley Building Society: Winning Design.

MESSRS. BRIGGS & THORNELEY, FF.R.I.B.A., Architects.



Proposed New Head Offices for Burnley Building Society: Winning Design.

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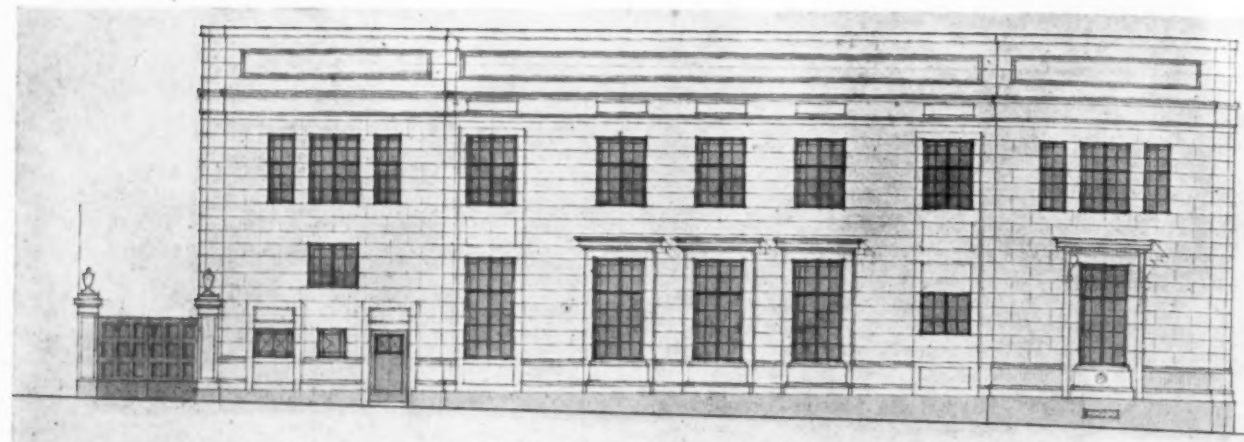
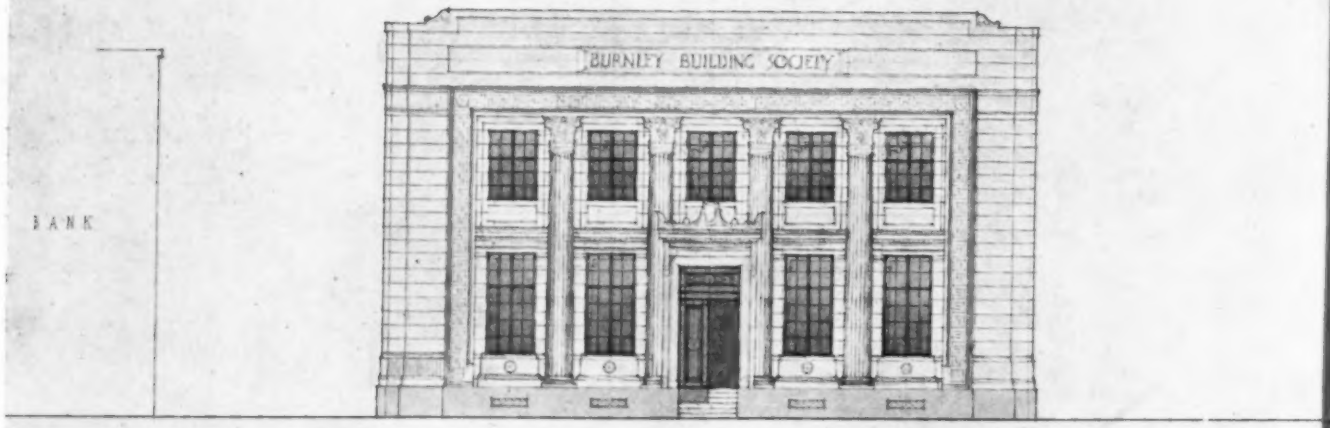
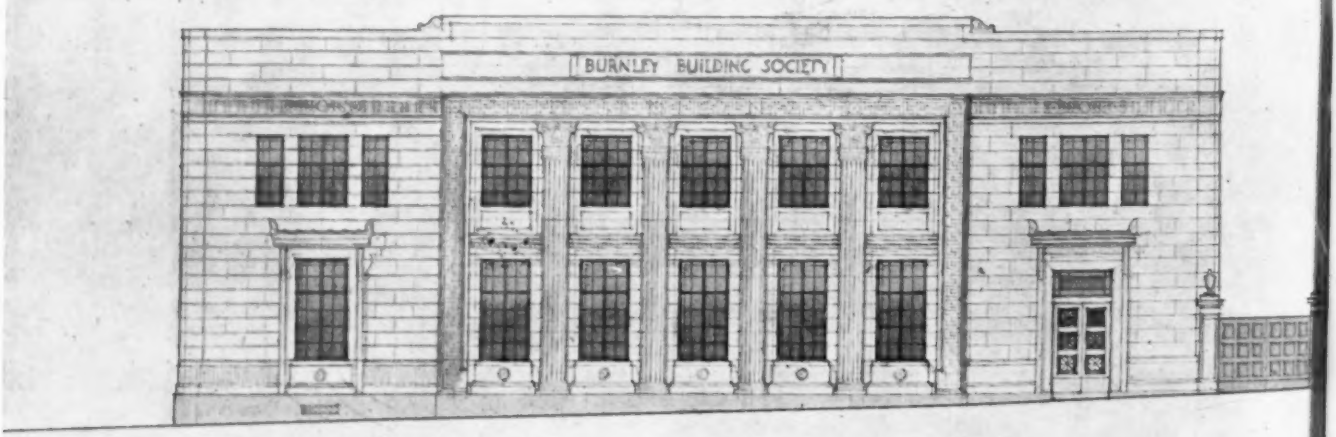


ELEVATION TO THOMAS STREET.



ELEVATION TO GRIMSHAW STREET.



ELEVATION TO PARKER LANE

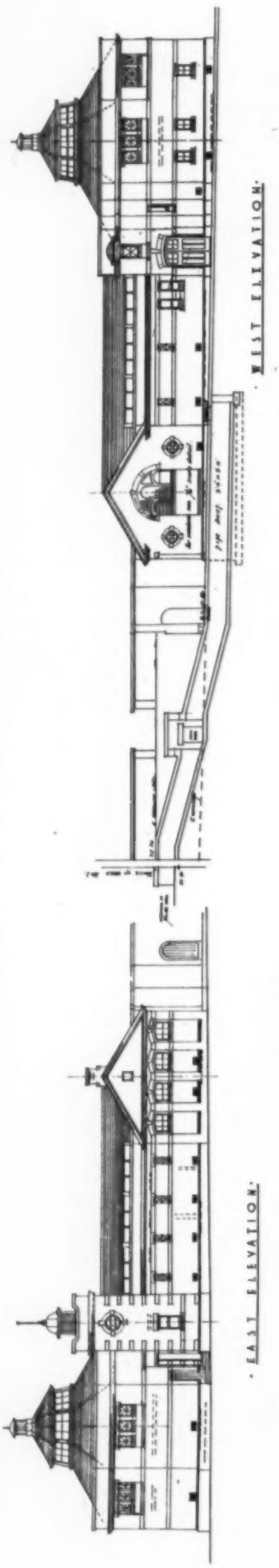
Proposed New Head Offices for Burnley Building Society: Winning Design.

MESSRS. BRIGGS & THORNELY, FF.R.I.B.A., Architects.

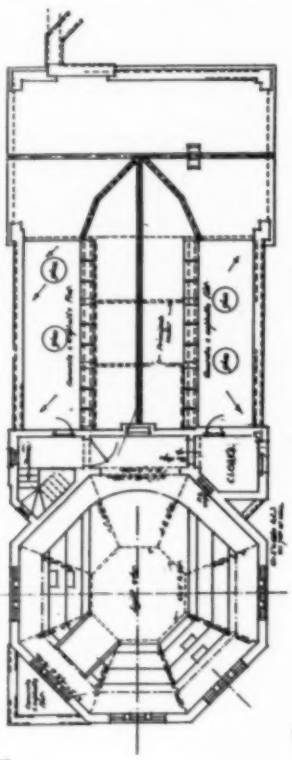
UNIV. OF MICH.

ROYAL · VICTORIA · HOSPITAL · BELFAST

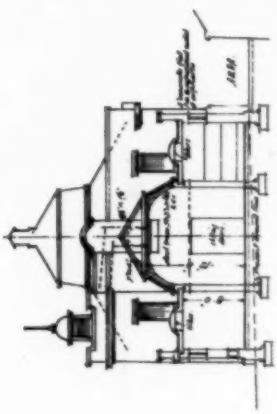
· NEW PATHOLOGICAL DEPARTMENT ·



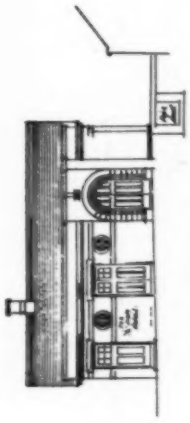
· WEST ELEVATION ·



· PLAN ABOVE MORTUARY ROOF ·

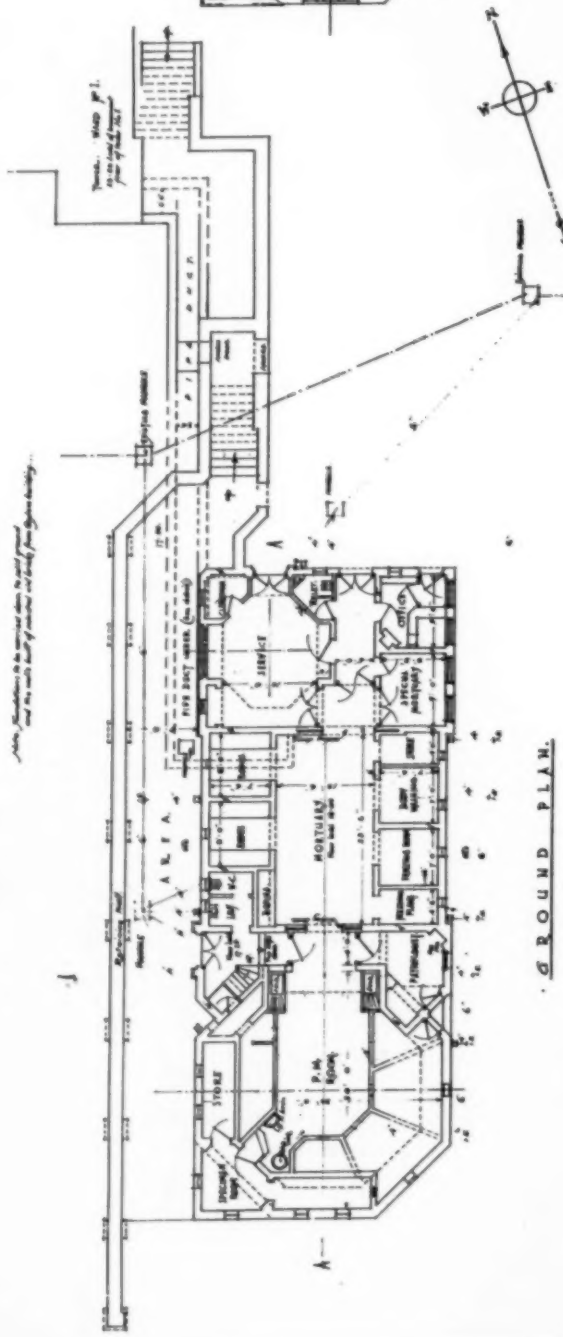


SECTION ON LINE E.F.

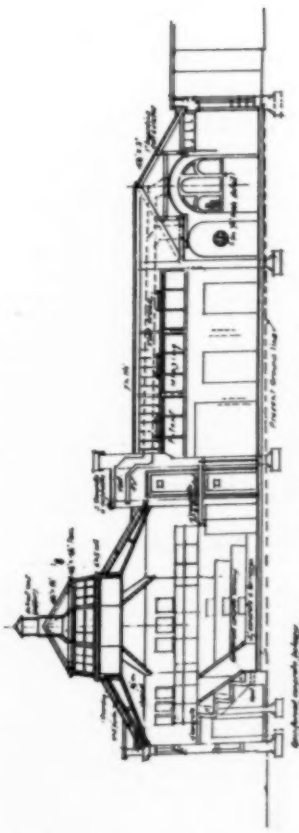


· NORTH ELEVATION ·

· EAST ELEVATION ·

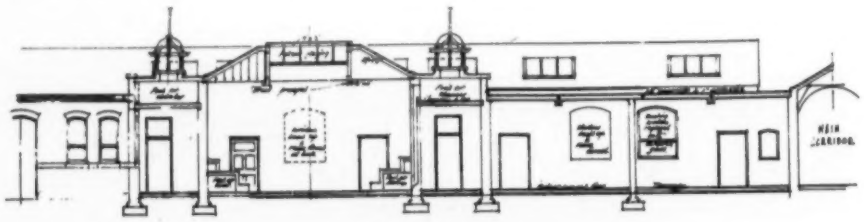


· GROUND PLAN ·

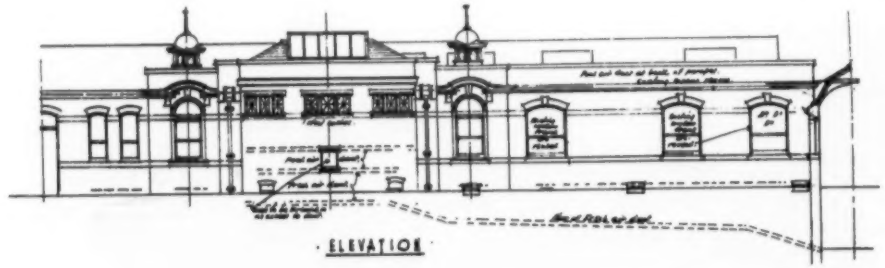


SECTION ON LINE A.A.

Messrs. Young & Mackenzie, Architects.



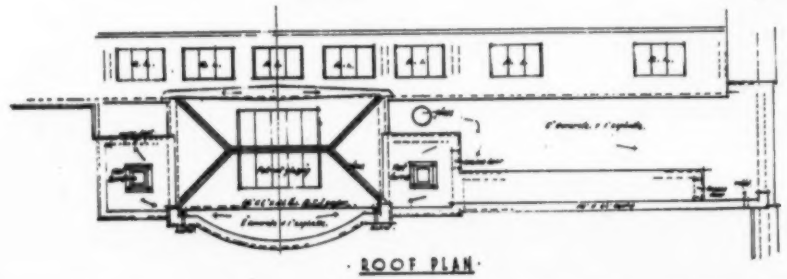
SECTION ON A.A.



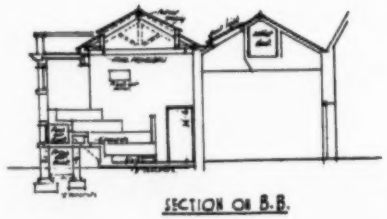
ELEVATION

ROYAL VICTORIA HOSPITAL · BELFAST
ADDITIONS TO WEST SIDE OF EXTERN DEPARTMENT.
- MEDICAL & "X" RAY ROOMS

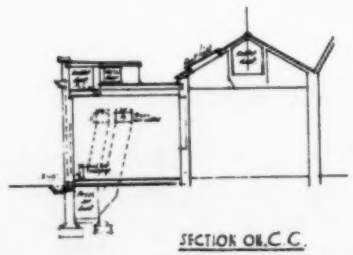
Scale 8 feet to one inch



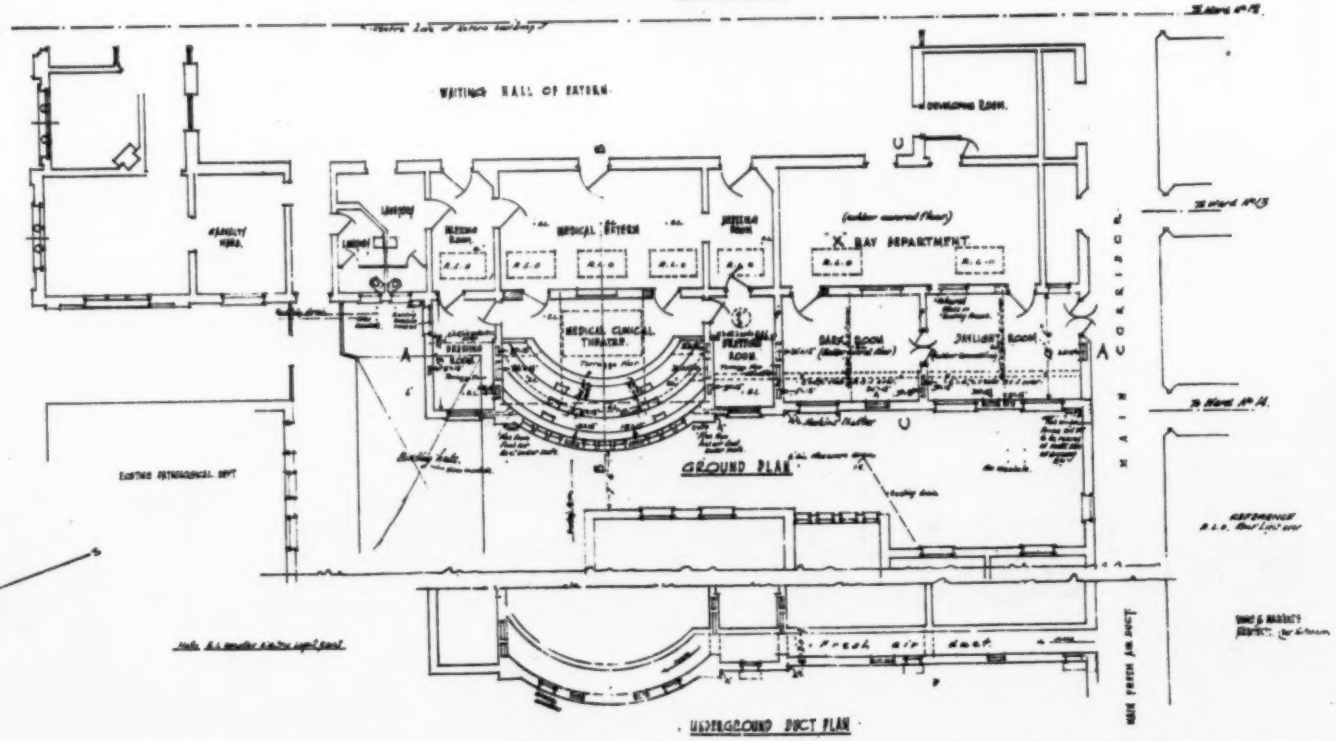
ROOF PLAN



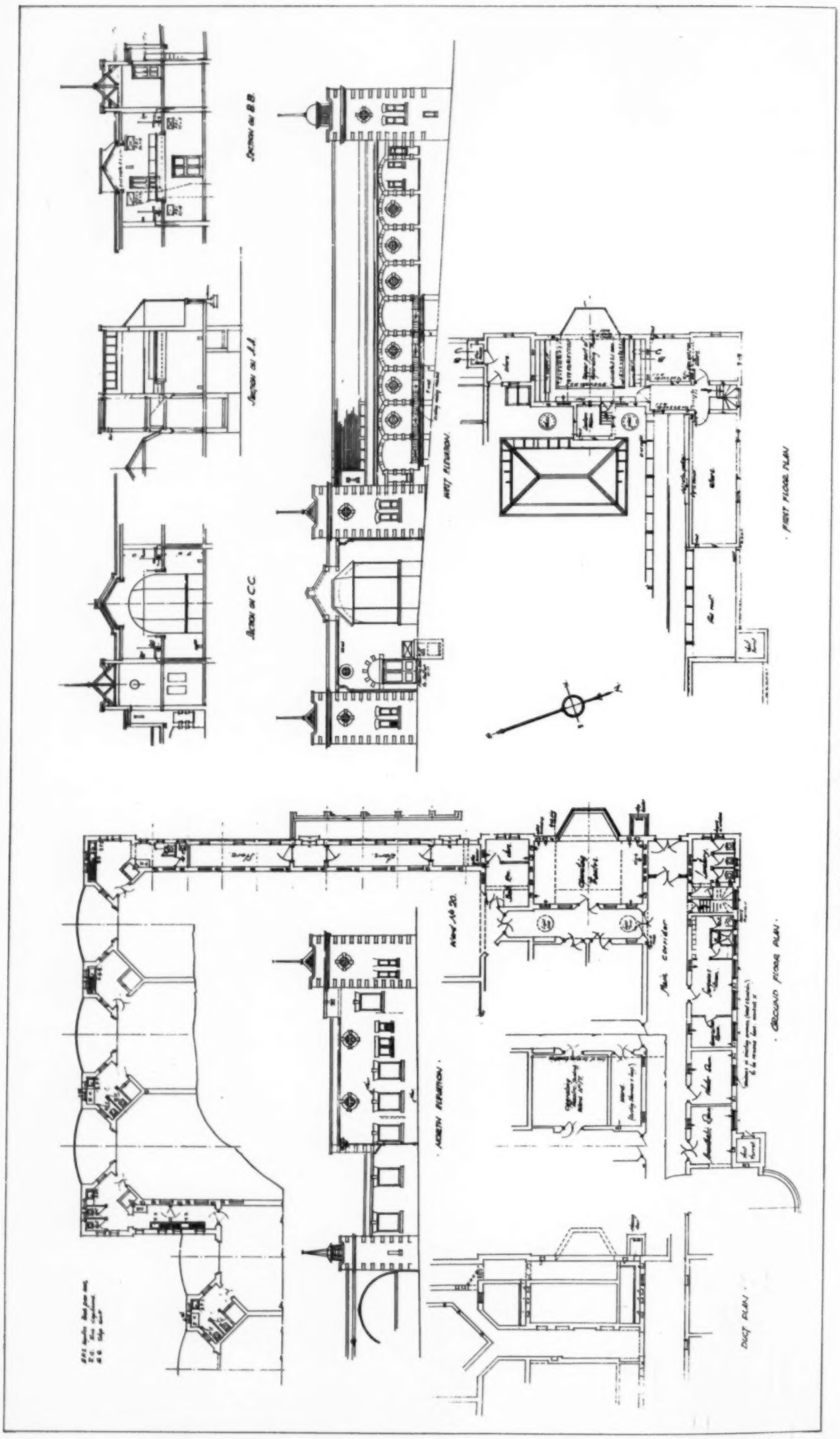
SECTION ON B.B.

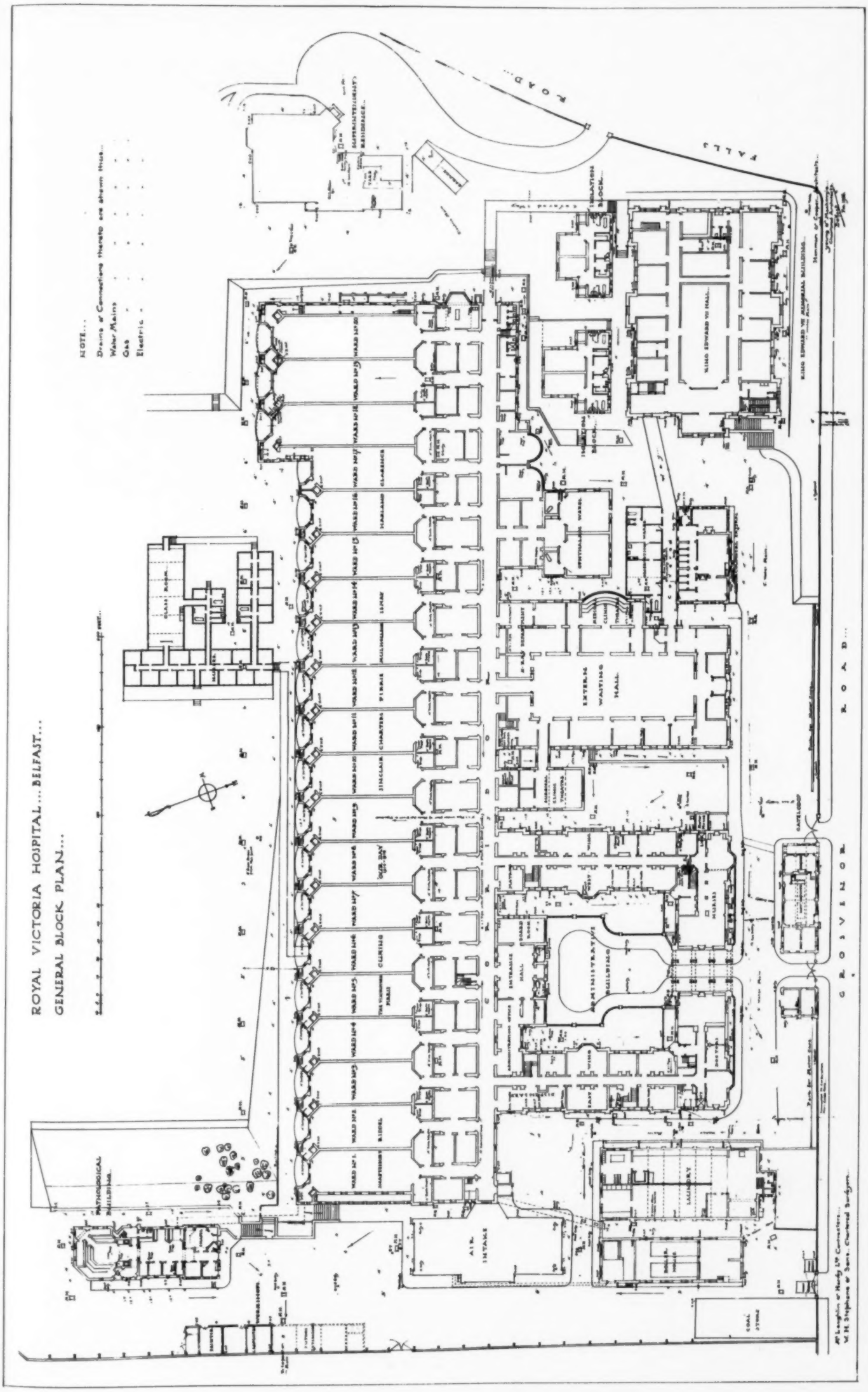


SECTION ON C.C.



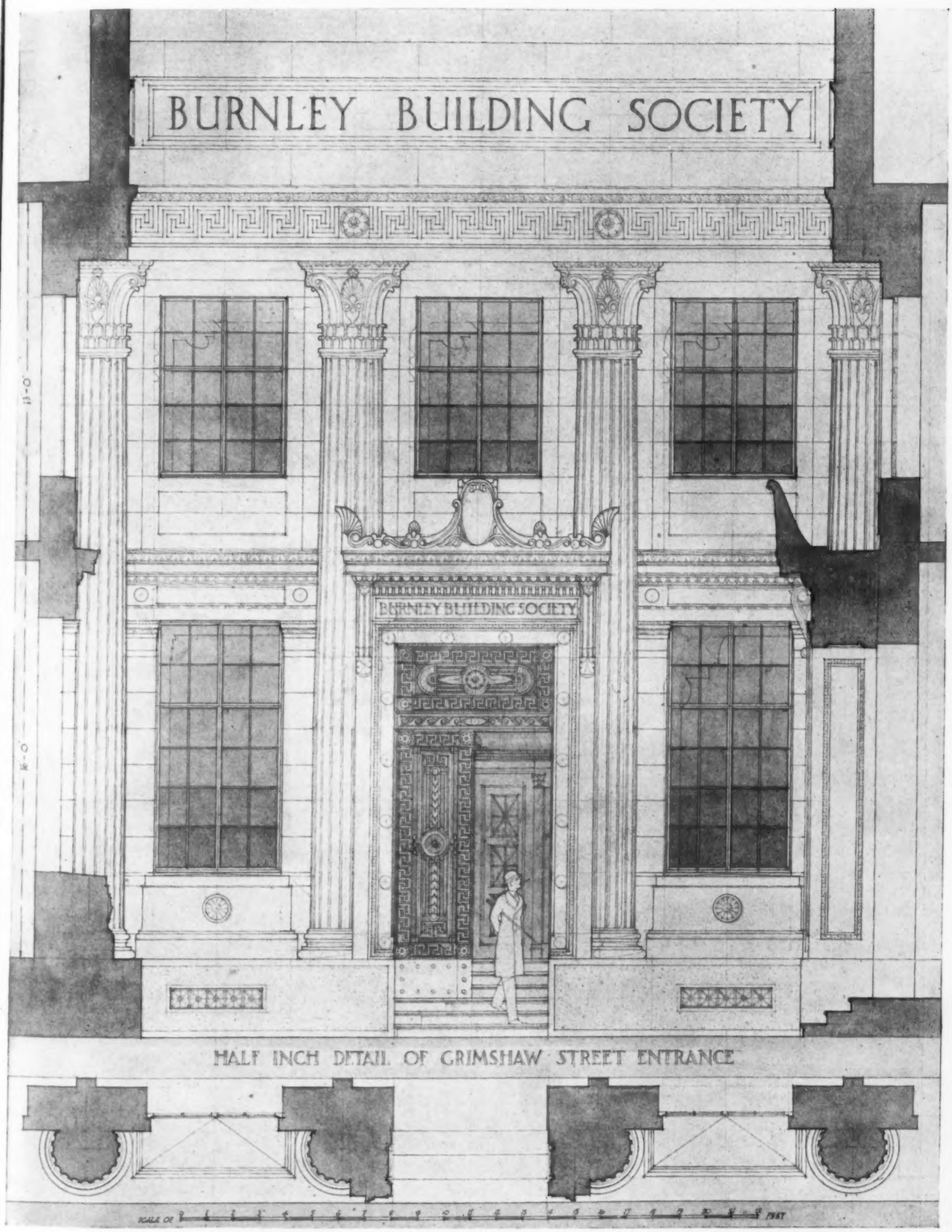
Messrs. Young & Mackenzie, Architects.


Section on A A.
Section on B B.
Section on C C.
WEST ELEVATION.
FIRST FLOOR PLAN.
ROYAL VICTORIA HOSPITAL, BELFAST: NEW WARDS, WEST END.
Messrs. Young & Mackenzie, Architects.
EAST ELEVATION.
GROUND FLOOR PLAN.
PLAN.



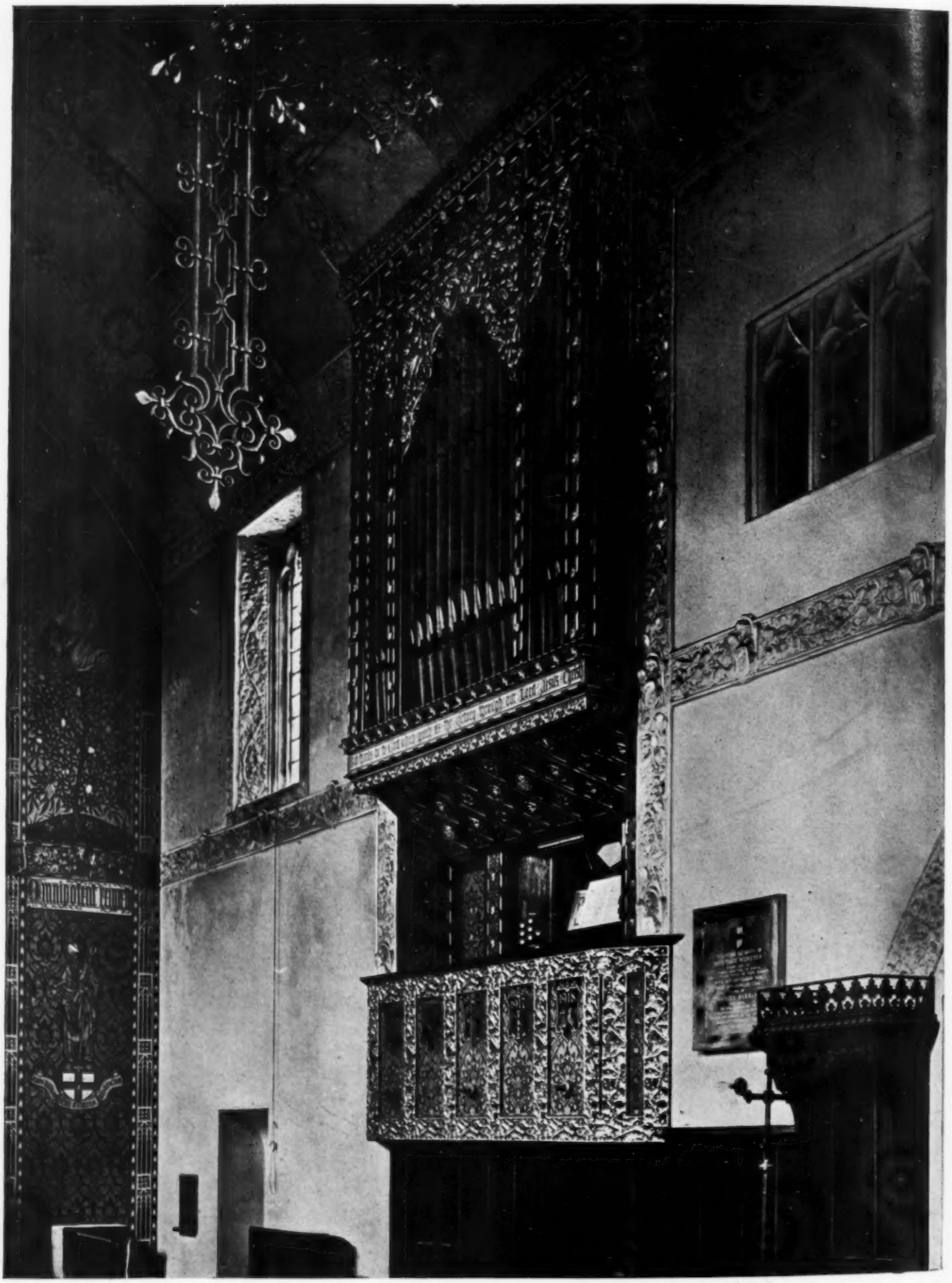
ROYAL VICTORIA HOSPITAL, BELFAST: GENERAL BLOCK PLAN.
Messrs. Young & Mackenzie, Architects.

UNIV. OF MICH.



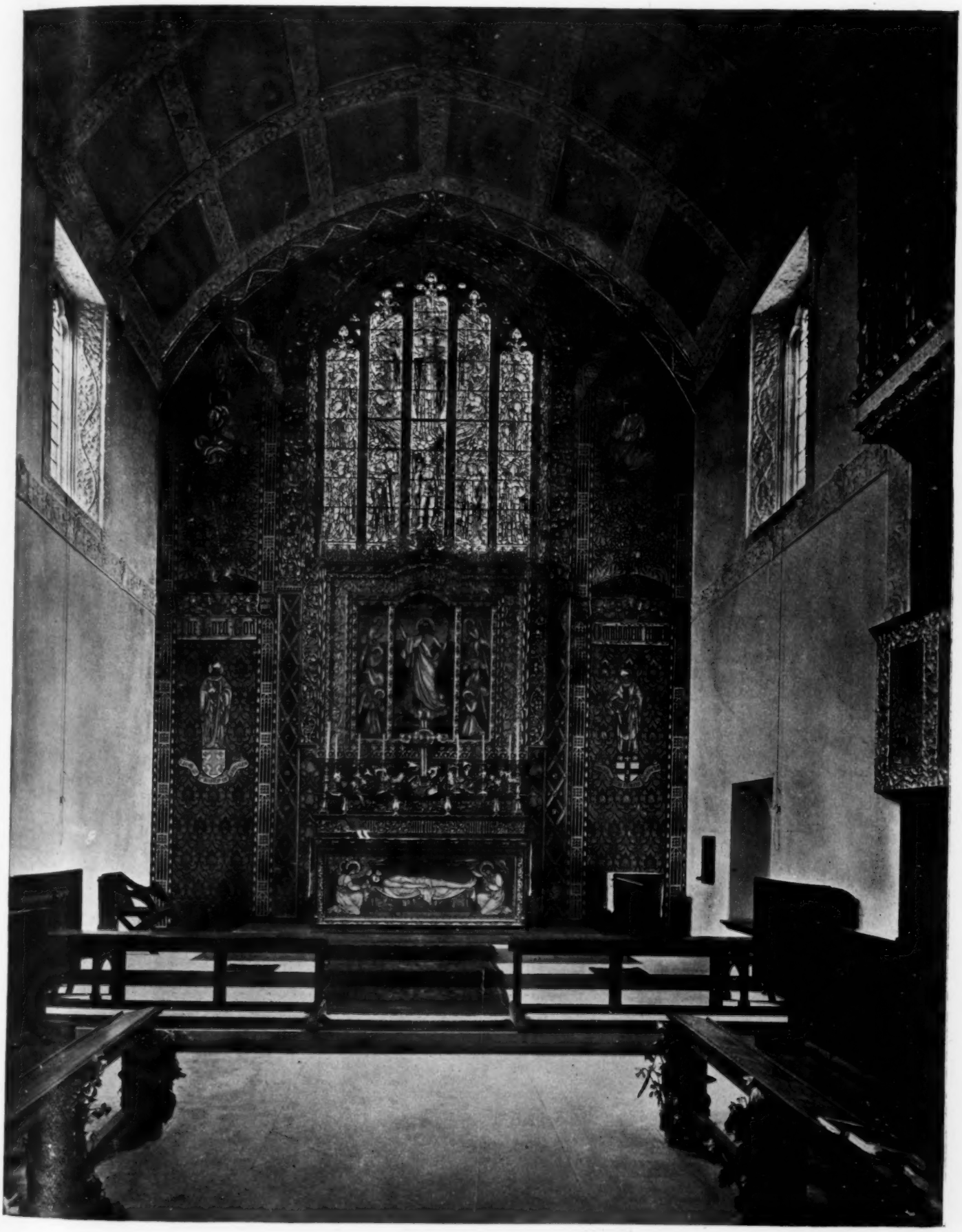
Proposed New Head Offices for Burnley Building Society: Winning Design.

MESSRS. BRIGGS & THORNELY, FF.R.I.B.A., Architects.



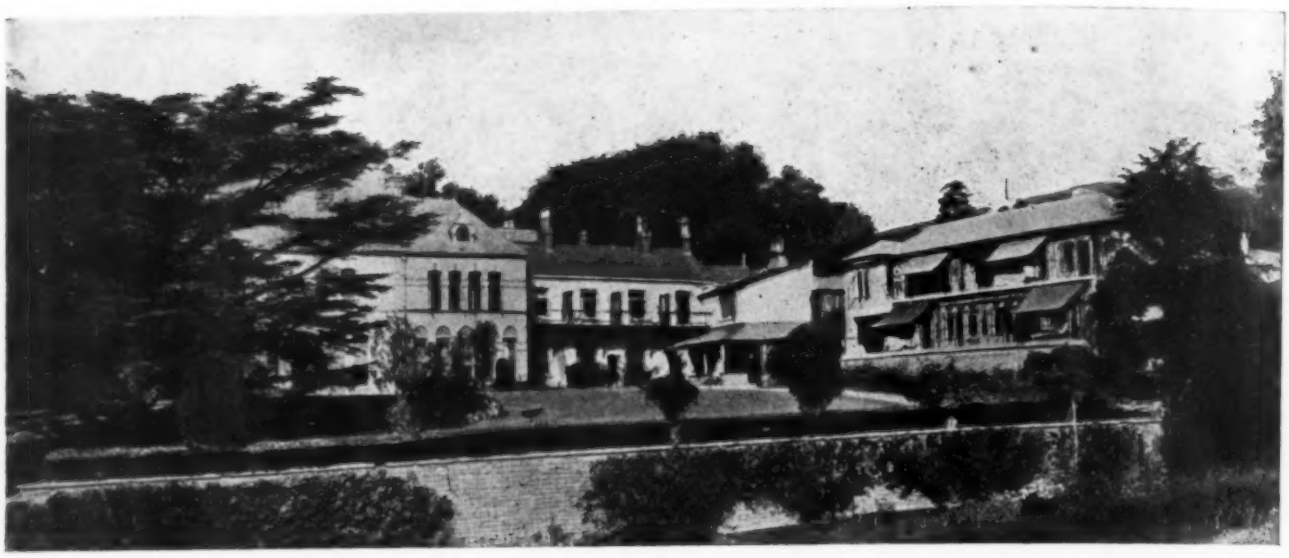
Hill Church (Four Oaks) near Birmingham: Organ Case.

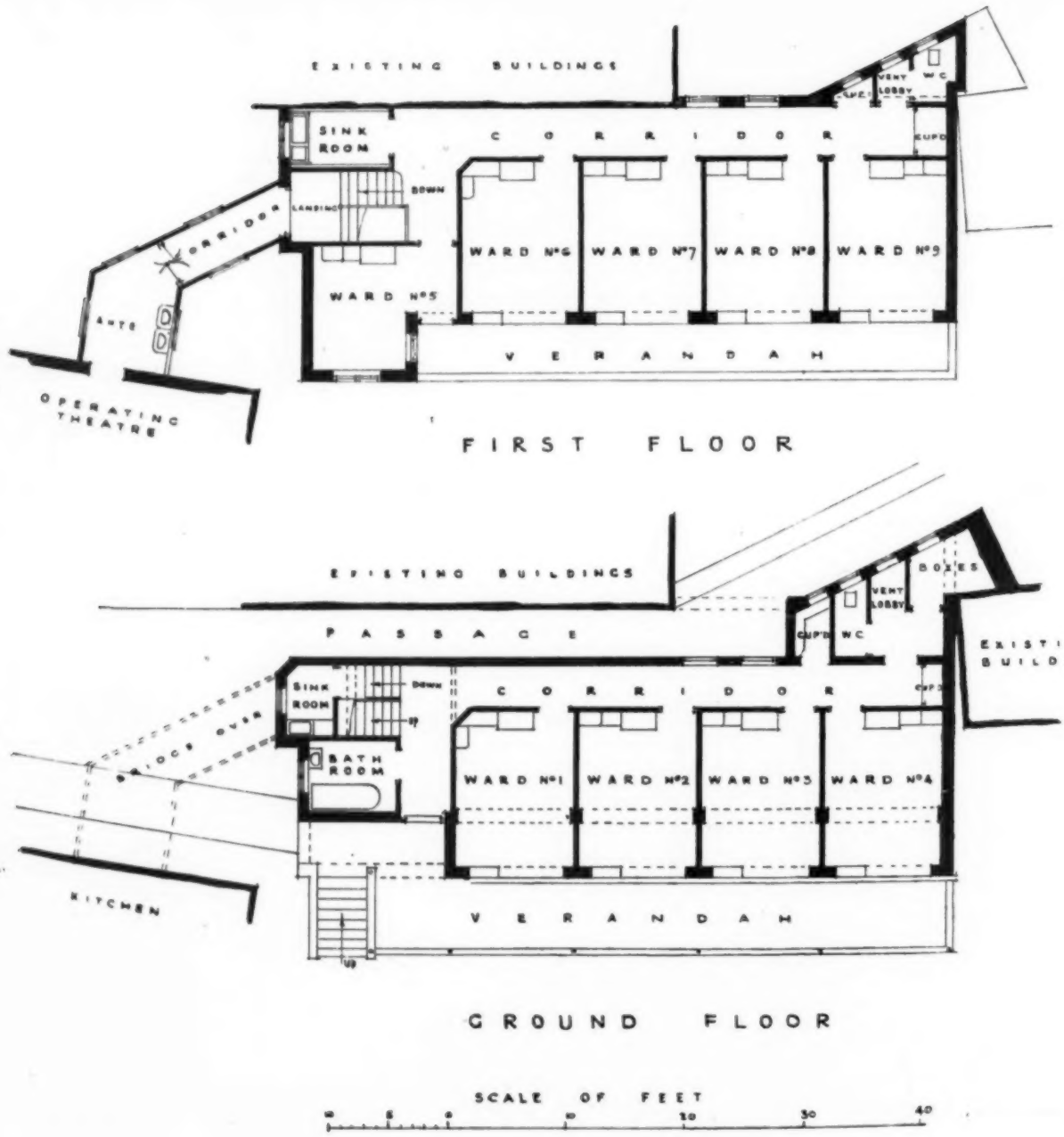
MR. C. E. BATEMAN, F.R.I.B.A., Architect.



Hill Church (Four Oaks) near Birmingham.

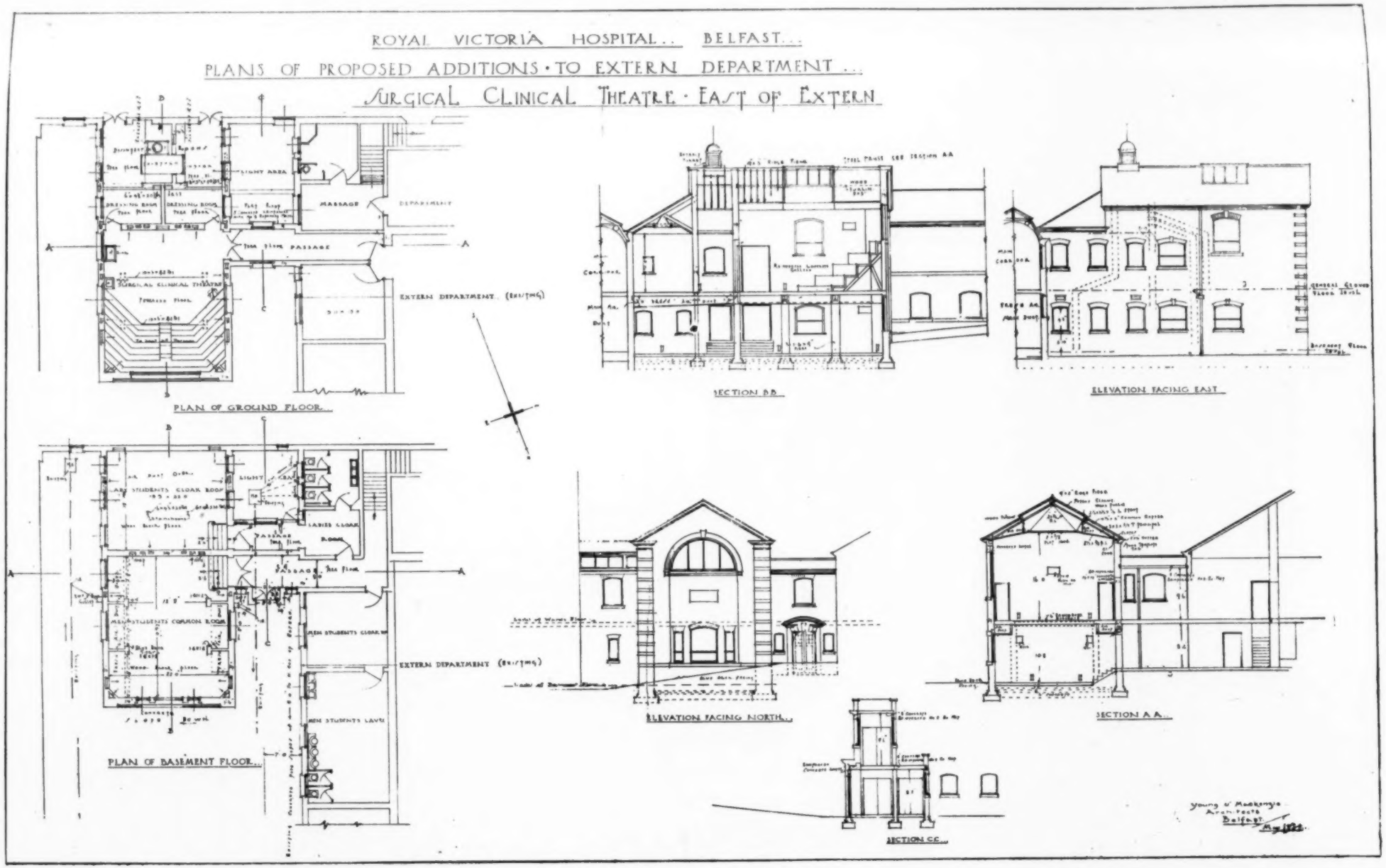
Mr. C. E. Bateman, F.R.I.B.A., Architect.





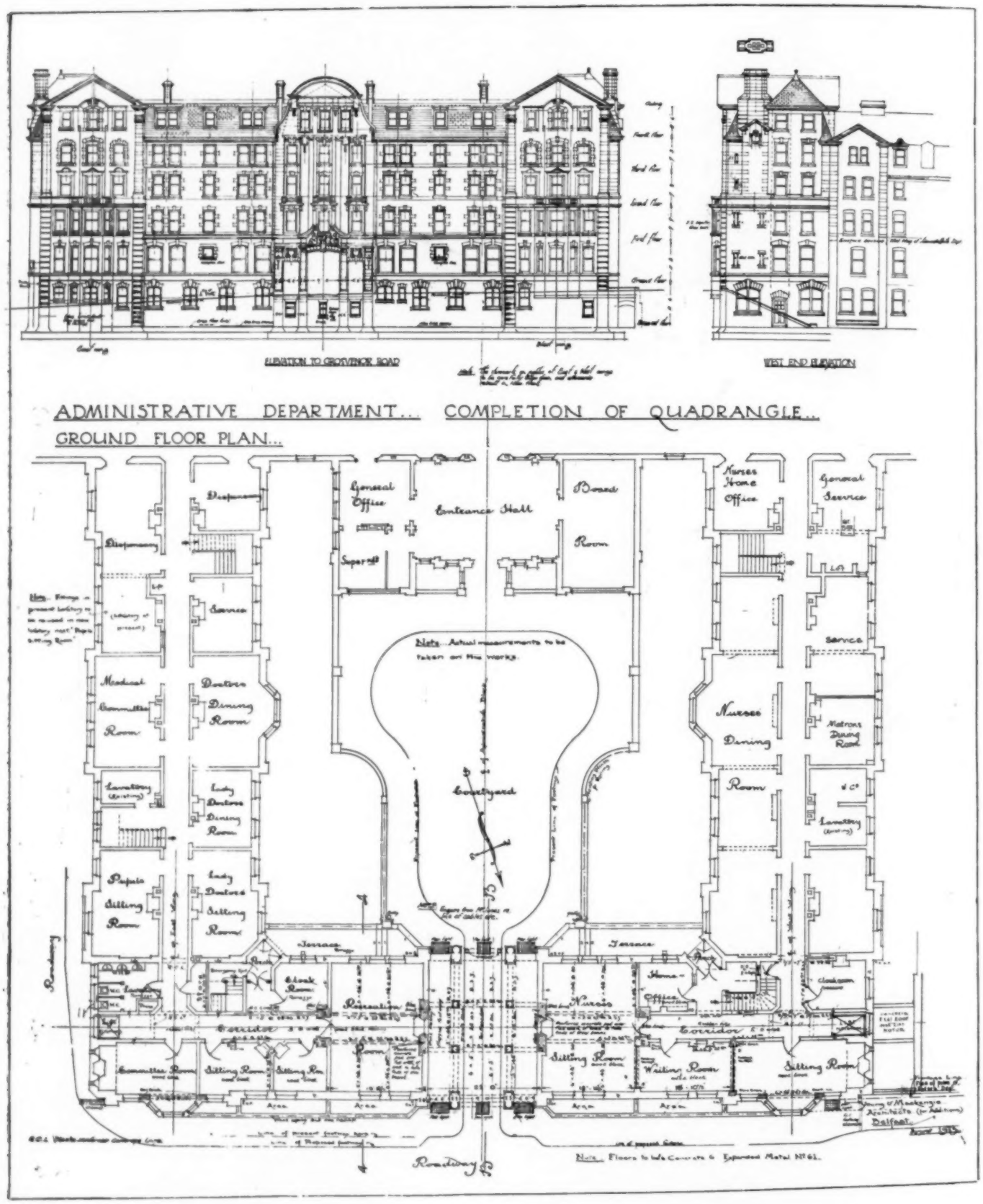
Vale of Clwyd Sanatorium, Llanbedr Hall, near Denbigh, North Wales.

MESSRS. REES & HOLT, FF.R.I.B.A., Architects.



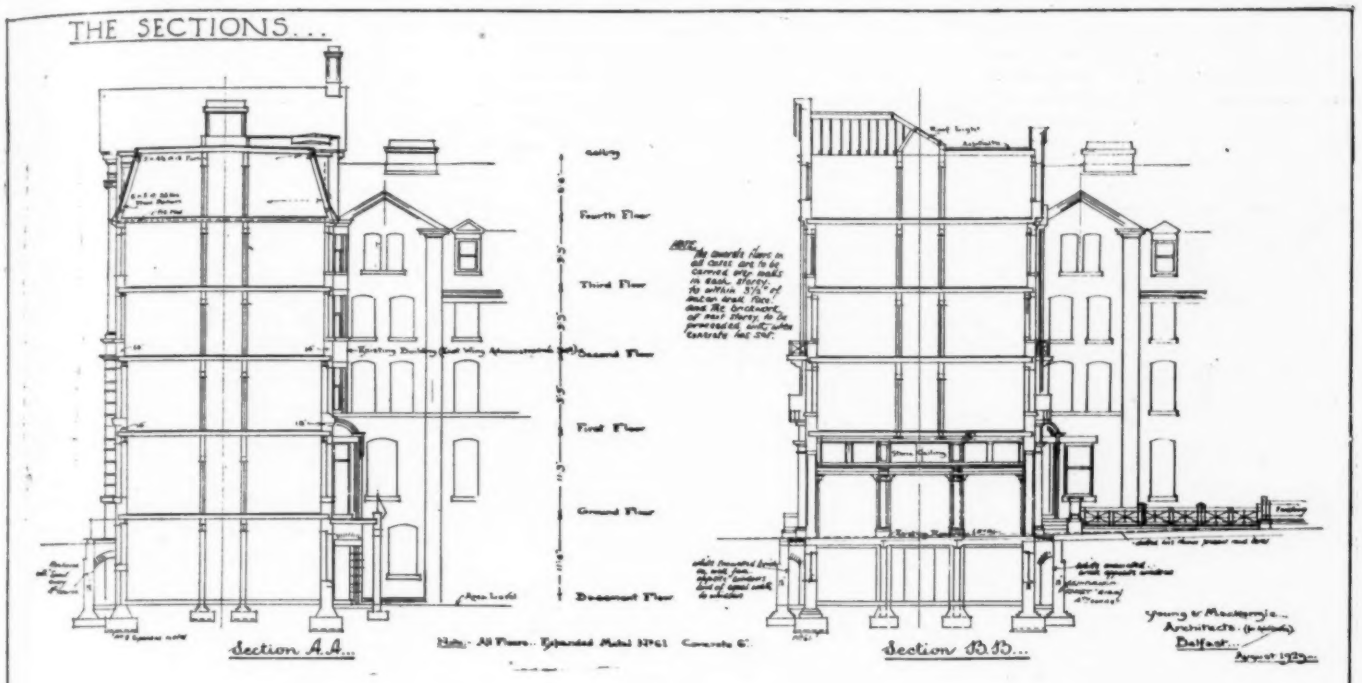
Royal Victoria Hospital, Belfast.

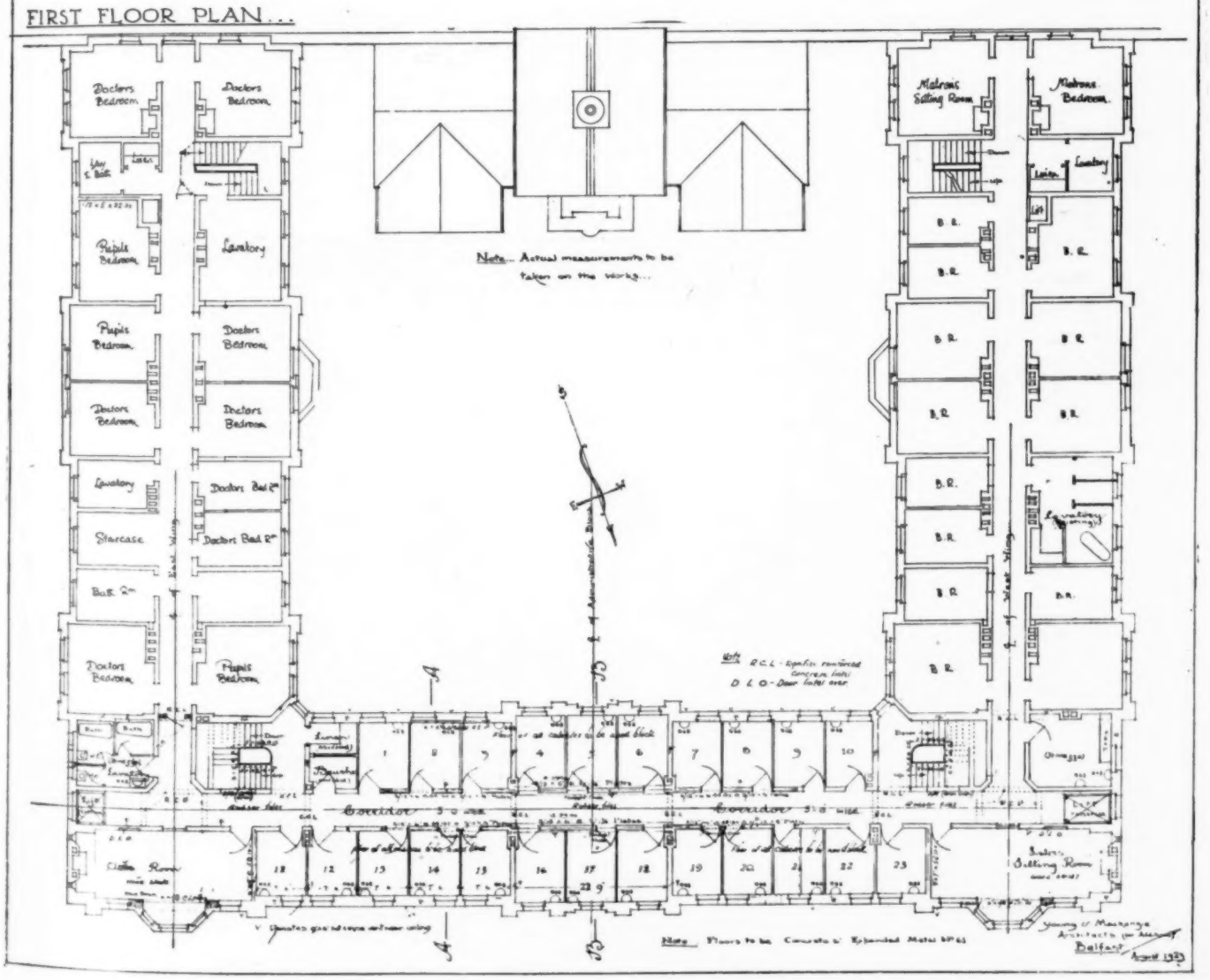
MESSRS. YOUNG & MACKENZIE, Architects.



Royal Victoria Hospital, Belfast: Administrative Department.

MESSRS. YOUNG & MACKENZIE, Architects.





Royal Victoria Hospital, Belfast: Administrative Department.

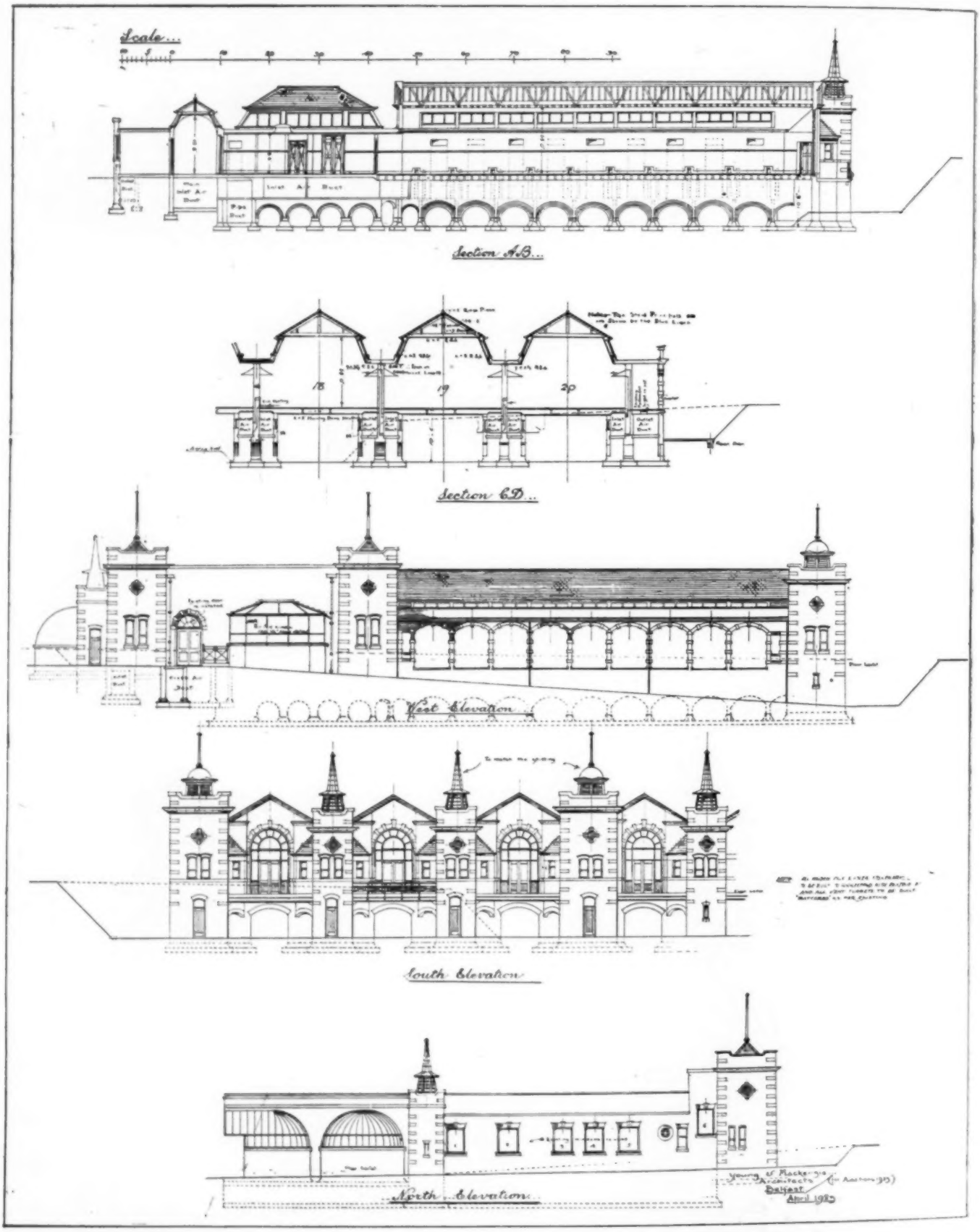
MESSRS. YOUNG & MACKENZIE, Architects.

ROYAL VICTORIA HOSPITAL, BELFAST

THE extensions to this hospital comprise three new wards of twenty beds each, obtained by extending the existing central corridor for 80 ft. westwards. The wards are complete with operating theatres, anæsthetic rooms, private wards, and sanitary turrets. A new sterilising plant has been centrally placed on the north side of the connecting corridor. The Extern Department has been augmented by medical and surgical clinical theatres together with additional waiting accommodation.

A new pathological department has been placed in a separate building easily accessible on the east side of the hospital. The dental department has been re-housed on the second floor of the King Edward Memorial building, and is a complete unit with waiting room, clinical room, staff room, conservation room, anæsthetic and recovery rooms, extracting room and X-ray apparatus.

The Extern Ophthalmic has been removed from the general extern to the first floor of the King Edward Memorial building and is also a complete department. The additional nursing staff required has been housed in the new Musgrave Memorial building formed by connecting the east and west wings of the original administrative building, a quadrangle being thus



The North and West Elevations have been revised and are correct as shown on our inset plate.

Royal Victoria Hospital, Belfast: New Wards, West End.

MESSRS. YOUNG & MACKENZIE, Architects.

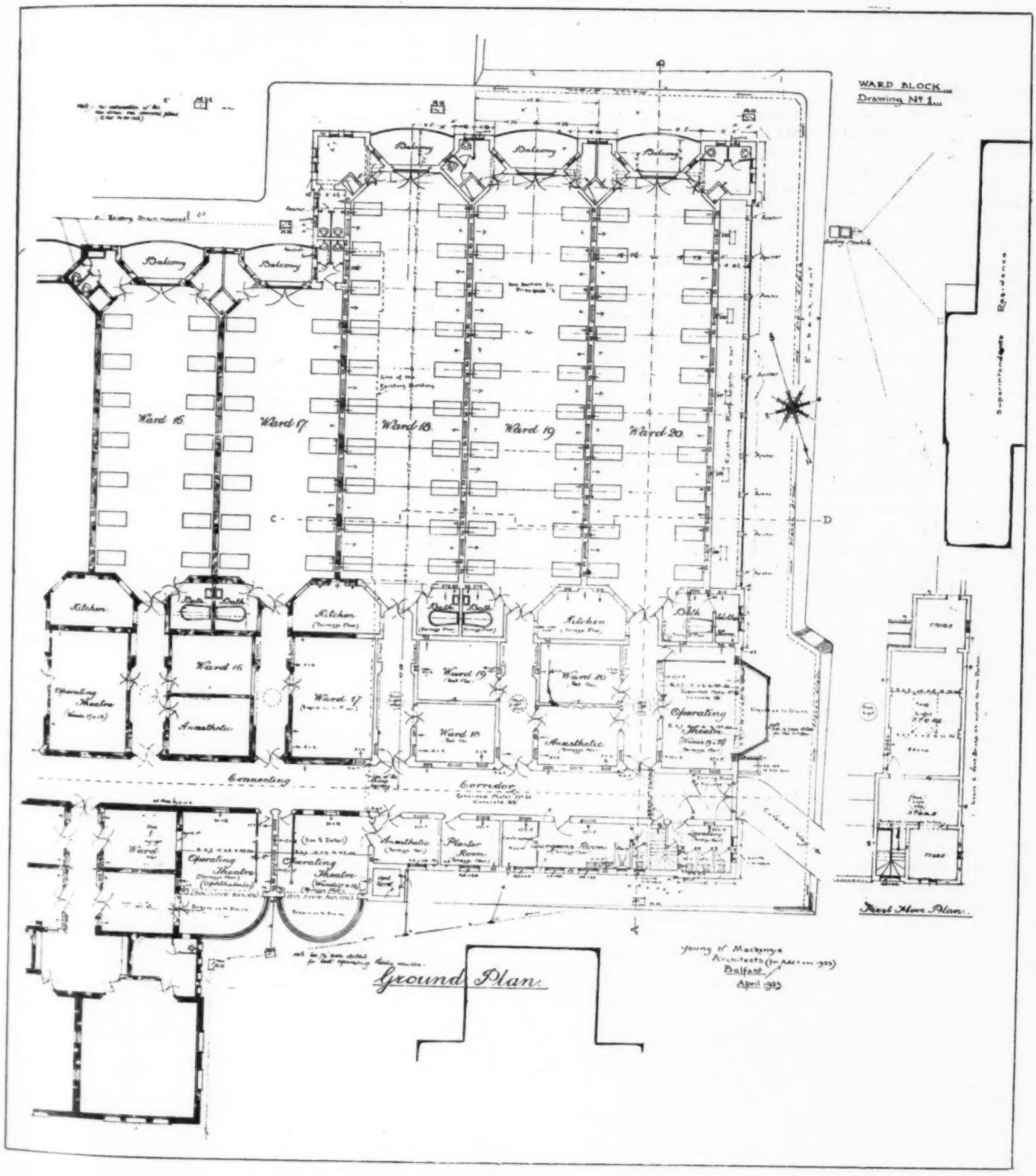
formed which is approached by an arched entrance through the new building.

The basement of this building is occupied on the west side by extensions to the kitchens and stores in connection therewith, while on the east side additional storage accommodation and staff quarters are provided. On the ground floor to the west side of the arched entrance are rest, sitting and writing rooms for the nursing staff. On the east side are committee, sitting, and recreation rooms for the resident medical staff. The remaining four floors of the building are taken up with bedroom accommodation for the nursing staff, there being twenty-five bedrooms on each floor.

The new pathological department comprises mortuary, with required offices, post-mortem room and chapel. Workshops for the engineering department have been provided, and the additional ground acquired by the hospital has been enclosed by a monolithic reinforced concrete wall.

Architecturally the new buildings have been designed to tone in with the old. The construction throughout is fireproof. The extensions were designed and supervised by Messrs. Young & Mackenzie, chartered architects and engineers, Belfast. Mr. H. Innes, the hospital engineer, supervised the electrical, plumbing, and engineering work generally, and Mr. W. J. MacPhail, A.M.I.C.E., acted as clerk of works.

The general contractors were Messrs. McLaughlin & Harvey, Ltd., Castleton Building Works, Belfast, and the following were subcontractors:—Plumbing work, J. Dowling & Sons, Ltd., Belfast; electrical work, Wm. Coates & Son, Ltd., Belfast; central sterilising plant, Manlove, Alliott & Co., Ltd.; refrigerating plant, J. & E. Hall, London, E.C.4; theatre sterilising plant and cooking apparatus, J. Slater & Co., London, W.1; terrazzo work, Diespekers, Ltd., London, E.C.; asphalte roofs, Limmer & Trinidad Lake Asphalte Co., Ltd.; electric lifts, Smith, Major & Stevens, Northampton; cork parquetry, H. W. Cullum & Co., Ltd., London, W.C.1; rubber flooring, G. Maclellan & Co., Ltd., Belfast; wood block flooring, A. N. McClinton, Belfast; sliding partitions, Kingfisher, Ltd., West Bromwich; ornamental ironwork, &c., Musgrave & Co., Ltd., Belfast; patent glazing and composite steel windows, H. Hope & Sons, Ltd., Smethwick, Birmingham; hardware, Riddels, Ltd., Belfast, and R. Patterson & Sons, Ltd., Belfast; tiling, R. Kirk, Belfast; stained glass, Ward & Partners, Belfast; heating (low-pressure), Riddels, Ltd., Belfast.



Royal Victoria Hospital, Belfast: New Wards, West End.

MESSRS. YOUNG & MACKENZIE, Architects.

CONSTRUCTIONAL STEELWORK SIMPLY EXPLAINED.—IX

By OSCAR FABER, O.B.E., D.Sc., M.Inst.C.E., etc.

[EDITORIAL NOTE.—*This series, which will be published in book form later, is intended to present the problem in so simple a form as to be readily understood by those having no special engineering training.*]

In the last issue we showed how to calculate the resistance moment of the steel-joist type of section characterised by the bulk of the material being concentrated in two flanges and therefore nearly all acting at the same distance from the neutral axis.

We now have to consider other sections used in practice where this approximation cannot conveniently be made. Clearly one of the most important sections is the rectangular one, which we must now consider. Before we can do so we must study a few important points applicable to all beams.

Consider a beam initially straight and supported at its ends as shown in Fig. 16 (*a*). When this beam is loaded it deflects. This deflection may not be sufficient to be obvious to the naked eye, but if apparatus suitable for the purpose is used it indicates a definite deflection corresponding to the load. If the ends were originally at right angles to the beam, and therefore parallel, they will now slope as shown in Fig. 16 (*a*), and the point where they meet, somewhere above the beam, is the centre of gravity.

The top and bottom of the beam after bending form two segments of a circle, and obviously the segment of smaller radius will be shorter than the segment of greater radius, so we see that these two faces, initially of equal length, are now of different length, the upper face having shortened and the lower face having lengthened. This shortening and lengthening is indicated at the end of the beam in Fig. 16 (*a*). The shortening of the upper face is the effect of the action of compression stresses in it, while the lengthening of the bottom face is the effect of tensile stresses, and these shortenings and lengthenings are quite inevitable and in accordance with the operation of Hook's law, which we studied previously

Between the top layer, which is shortened, and the bottom layer, which is lengthened, there is a layer which is neither shortened nor lengthened. This is called the neutral plane. In symmetrical homogeneous sections it lies on its centre line. In unsymmetrical sections it passes through the centre of gravity of the section. From what has been said and from the diagram of the end of the beam after bending, shown on Fig. 16 (*a*), it is clear that the lengthening or shortening will be as shown on Fig. 16 (*b*), which is, in fact, a strain diagram, the strain being a maximum at the top and bottom, getting gradually less as the neutral axis is approached and being compressive strain or shortening above the neutral axis, and tensile strain or lengthening below the neutral axis. From this and from what has been previously said it is clear that *the strain is proportional to the distance from the neutral axis.* In Fig. 16 (*b*) the strain at a layer half-way between the neutral axis and the top is indicated and is clearly equal to half the strain at the top.

From Hook's law, with which we made acquaintance earlier, we saw that the stress is proportional to the strain. Therefore, as the strain is proportional to the distance from the neutral axis, it also follows that *the stress is proportional to the distance from the neutral axis.* It follows that the distribution of stress over the section is as shown in Fig. 16 (*c*), being exactly similar to the strain diagram, the maximum stress (generally denoted by *f*) being at the top and bottom of the beam.

The portion of the beam above the neutral axis is the compression flange, and the portion below the neutral axis is the tension flange, and if we can calculate the total compression (or the total tension) and multiply this by the distance from one to the other we shall have calculated the resistance moment as before.

The total compression is clearly the area in compression multiplied by its average stress. The area in compression is

$$b \times \frac{d}{2}$$

and the average stress (being the average between f at the top and zero at the bottom of the compression area) is clearly $\frac{f}{2}$ so that the total compression is

$$C = b \times \frac{d}{2} \times \frac{f}{2}$$

It only remains now to calculate the distance from the centre of compression to the centre of tension. If the stress in the compression area were uniform the centre of compression would lie centrally in the compression area. But the stress in the compression area varies from nothing at the neutral axis to a maximum at the top in a trianguar distribution. The centre of compression in a case like this lies at the centre of gravity of the stress diagram, and the centre of gravity of a triangle is at a distance of two-thirds the height from the apex. In Fig. 16 (*c*) the height of the triangle is $\frac{d}{2}$, and therefore the centre of gravity of the triangle is at a distance of two-thirds of this, viz., $\frac{d}{3}$ from the neutral axis. Similarly the total tension T is at a distance of $\frac{d}{3}$ from the neutral axis, so that the distance from the centre of compression to the centre of tension is two-thirds of d. The resistance moment is therefore given by

R = Total compression × distance from total compression to total tension.

$$= b \times \frac{d}{2} \times \frac{f}{2} \times \frac{2}{3}d$$

$$= \frac{f.b.d^2}{6}$$

It is interesting to compare this with the corresponding expression for the steel-joist section—

$$R = f \times Ad.$$

In both cases the resistance moment is made up of two expressions, the first being the stress and the second being an expression depending solely on the dimensions of the specimen and having the value $A \times d$ for the steel-joist section and $\frac{bd^2}{6}$ for the rectanguar section. These expressions are called the *section modulus.*

The section modulus may be defined as the quantity which, multiplied by the stress, gives the resistance moment of the beam. We have seen that it may be calculated by adding together the areas of the

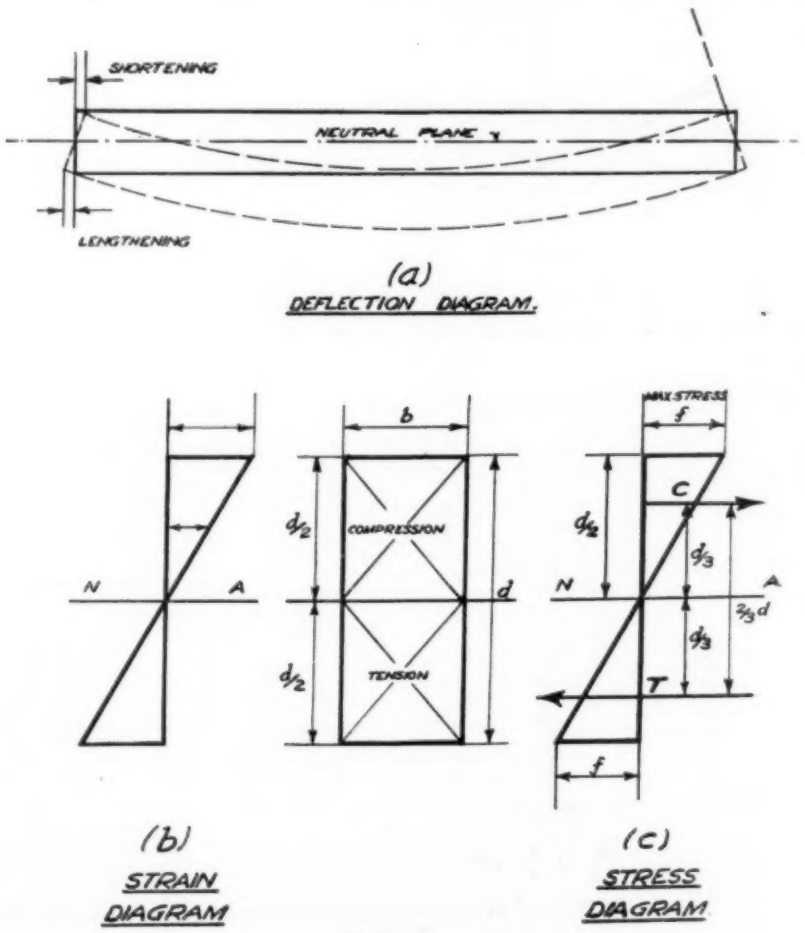


FIG. 16.

flanges multiplied by their distance from the neutral axis. The section modulus is generally denoted by the letter Z, so that we may write generally

$$R = f \times Z.$$

The resistance moment therefore consists of two quantities, the first of which is the stress and depends on the strength of the material used, while the second quantity depends only on the dimensions of the section.

Several important points result from what we have done. In the first place the expression for the section modulus of the steel joist (area of flange times depth) shows that a deep beam is proportionately stronger than a shallow beam when both have the same area of flange, and therefore the same weight. From this it follows, of course, that deep beams are more economical than shallow ones, and this is invariably true until the web (the material connecting the two flanges) becomes a dominating consideration.

Secondly, we notice from the section modulus of the rectangular beam $\left(\frac{bd^2}{6}\right)$ that the depth is more important than the breadth. For example, a 9 × 3 plank on edge has a strength proportional to

$$\frac{3 \times 9^2}{6} = 40\tfrac{1}{2},$$

while the same beam on the flat has a strength proportional to

$$\frac{9 \times 3^2}{6} = 13\tfrac{1}{2},$$

so that a beam on edge is three times as strong as the same beam on the flat when the ratio of breadth to depth is 3. Depth is not only important as giving strength in the most economical manner, but it also makes for stiff structures, that is, structures with a minimum of deflection. For rectangular sections it can be shown that although the strength varies with the square of the depth, the stiffness varies with the cube of the depth, showing what an important part the depth plays in the stiffness of a structure.

In the case of steel joists which are rolled from solid ingots of white-hot metal by machinery of enormous cost, certain standard sections are adopted, and designers must make use of these sections and get the strength they require from a combination of these sections with or without other sections or plates riveted to them. It would take an order of something quite outside the ordinary to justify putting down fresh rolls for a section other than the standard one. For these standard sections the section modulus has been worked out once and for all, and is given in the lists issued by the British Standards Association, for example, and by the various steel constructional firms. If the section modulus corresponding to any particular joist is multiplied by the safe stress (say, 7½ tons per sq. in.), the result is the resistance moment of that joist expressed in inch tons. The student should check some of these figures taken from the steelworks list against the figure obtained by adopting the simple form, area of flange times distance between flanges, and he will see that the approximation is very close, the differences arising being due to the somewhat complicated shape of the actual steel joists necessitated by the practical requirements of rolling and of reducing the shrinkage stresses on cooling to a minimum.

TOWN-PLANNING INSTITUTE

PRESIDENTIAL ADDRESS.

MR. W. R. DAVIDGE (President) took the chair at the first meeting of the session held at Caxton Hall, Westminster, on Friday, when he delivered his Presidential Address. Having expressed his appreciation of the honour conferred on him, the President referred to the growth of the Institute. In 1914 the membership was 115, and now it was 437. The first overseas examination of the Institute had recently been held at Nairobi, East Africa. The high prestige in which town planning was held was due in no small degree to the consistent help and encouragement which had been given to local authorities by the Ministry of Health under the keen leadership of Mr. Neville Chamberlain, and the invaluable aid of their honorary secretary, Mr. G. L. Pepler. The fact that town planning was compulsory before 1929 for all communities with a population of over 20,000 had no doubt also contributed to keep the subject very much a live one in the public mind.

It is particularly gratifying to note that the voluntary grouping of authorities into regions for the purpose of regional planning had been a marked success, no less than 34 such regions, comprising some 537 local authorities, having already been formed. The greater breadth of view which was given by membership of a regional authority was already proving of inestimable service to many local authorities, and the difficulties of local boundaries, which at one time seemed almost inseparable obstacles, were fast disappearing in the joint consideration of a common need.

Much of the discussion at the meetings during the coming session was to be directed to the regional problems of great centres, and in particular to the many problems of Greater London, which in themselves illustrated and epitomised the difficulties which beset all great centres of population. The Royal Commission on Cross River Traffic in London, recently set up by the Government to decide upon the vexed question of cross-river bridges, was but one example of a very important phase of town planning. The views of the Institute had been laid before the Royal Commission, and it was noteworthy that so far back as two years ago the Institute took the first step by setting up a special committee for the investigation of this very important subject. It was obvious that no piecemeal consideration of so vast a subject could be really satisfactory without also considering its many bearings and ramifications; and its effect, direct and indirect on all other forms of activity. The Institute, in conjunction with other bodies, was therefore continuing to press upon the Government the need for a general plan for Greater London, which would not only co-ordinate the already existing regional areas, but would in effect bring into being a London and Home Counties Region for town-planning purposes.

The London and Home Counties Traffic Advisory Committee set up by the Minister of Transport had already done most excellent work with regard to ameliorative measures for dealing with road traffic, but it was daily becoming more evident that a Regional Planning Authority, provided with adequate funds, was an essential in the near future. Within the compass of Greater London they had examples, not only of every period of architecture, but of every period of town planning. The spacious ideas of the seventeenth and eighteenth centuries stood out in sharp contrast to the more niggling examples of estate development in the nineteenth century. The layout of Lincoln's Inn Fields and of the Piazza in Covent Garden by Inigo Jones, about 1635, set a high standard of private estate development, which was rapidly followed by St. James-square, laid out in the time of Charles II, Red Lion-square, Queen-square and Queen Anne's Gate, and the innumerable West End squares of the eighteenth century, all laid out by private enterprise on the fields which then encircled London. The same breadth of vision which provided such magnificent open spaces for they of the present day was also evident in the wide turnpike roads and well set-back building lines, often 150 ft. between the buildings, which were everywhere to be seen in the eighteenth-century road approaches to London.

Even in the matter of Thames bridges, on an average, five bridges were built for every fifty years as compared with the one new bridge (Tower Bridge) which they had built in the same period. He had no desire to raise any discussion on Waterloo Bridge, but it was well sometimes to be reminded that the public structures of those days, even when erected by a company, without public funds, were in every way worthy of the capital city. National sentiment and tradition were sometimes worth a great deal more than mere passing financial considerations, even for an enterprise primarily commercial in character.

During the last century the population of Greater London had increased nearly sevenfold, and their resources were infinitely greater than those of a hundred years ago. Why was there, then, any difficulty in providing for admittedly essential works The answer, he feared, was that if our resources were increased, the means of spending and dissipating those resources were even more widespread than ever. Their grandfathers largely confined their expenditure to works of permanent improvement, either of a private or a public nature. Capital was spent at home instead of in Russia or in South America, and even when a financial "flutter" was desired, the outlet was found in the promotion of a lottery for the building of Westminster Bridge or for the endowment of a hospital. An analysis of the accounts of a century or more ago showed that a far larger proportion of the national revenue was allocated to public works, even when there was no road fund and the roads were maintained by turnpike trusts and the bridges built and kept up by private companies.

A similar analysis of the national expenditure at the present time would reveal that there was exceedingly little expenditure on anything of a permanent and abiding nature. The only portion of their present national expediture which would have any tangible and visible result in fifty years' time was the amount they spent out of the Road Fund on their roads and bridges. Even this the present Chancellor of the Exchequer sought to allocate to more ephemeral purposes!

The continual growth of the urban populations and the constant drift toward the towns is more marked now than at any previous period in our history. Town planning was more essential than ever before. Were their large cities to be allowed to go on growing indefinitely? Was it feasible to divert their natural growth into newer and smaller communities? These questions had been asked again and again, but still there was no sign of abatement in the steady eating up of the countryside on the fringes of all their large cities. How could London be stopped? Why should it be stopped? They knew that the experiment of trying to stop further development had been tried out by such powerful personalities as Queen Elizabeth and Oliver Cromwell. They knew that all such experiments had lamentably failed. Nothing short of plague or invasion or the bankruptcy of Britain would stay the continual growth of London. The most that could be hoped was that the growth which must come would be guided into the right channels? But what were the right channels? Some would argue that new towns should be continually established and that the normal growth of London should be the establishment and completion of at least two or three new garden cities every year. There was undoubtedly room for many more new garden cities, but

existing communities would also have to be allowed to grow. If the Institute could but shape their growth to make them one and all approximate to the garden-city ideal, it would do well.

Regional planning must plan not only the towns, but the spaces in between. The lesson was clear that vast tracts of countryside and downland, hill and valley, parkland and farmland, must be reserved just as they were and where they were, unless the next generation was to be very much worse off than they were. This meant inevitable compensation on a large scale, but it also meant betterment for all surrounding property, as well as a wholesale transfer of building values to new building sites elsewhere. Whatever process was adopted, the distances between their new communities and the existing centres were steadily growing, and unless they could abolish the habit of travelling and do their work somewhere near home, they would rapidly become a nation of straphangers. Obviously the time spent in daily travel tended to increase, rather than diminish, but there was a limit to the purse, if not to the patience, of the traveller. Railway travelling would have to be much cheaper. If people were to go farther, the fare must not be worse. Straphanging brought its own condemnation and would have to be abolished, sooner or later. The growth of London and of all large cities could not be confined within rigid limits. It must of necessity spread widely afield. Great stretches of country would everywhere need to be preserved. The railways of this country were quite good, so far as their main line services were concerned, but the suburban railway services were, many of them, still run on mid-Victorian lines. Trains still dawdled on from station to station at an average speed of perhaps 16 to 18 miles an hour, with far too many stops. The stations and arrangements for the convenience of the passengers were entirely out of date, and it was not to be wondered at that a good system of motor-omnibuses rapidly drew away the disgruntled passengers, who found that they could frequently get directly from door to door without the necessity and inconvenience of walking to the station and waiting for a train. It was not to be wondered at that inquiries were being held into traffic conditions in several directions. The problem of the large town was primarily one of transport. The improvement of the means of transport must, however, go hand in hand with the allocation of all land to its right use. Within the province of town planning the need for further legislation was manifest in several directions.

They were definitely promised legislation in the near future to provide for the re-planning of built-up areas. There were many difficulties to be overcome if any drastic improvement was to be effected. It was comparatively simple to control by zoning the use or character of buildings, as was already so successfully done in America. It was, however, quite another thing to take a congeries of narrow alleys and backyards and replan them on sound and satisfactory lines, and hand the residue of the property back to the owners, worth as much, and preferably more, than it did before the operation. The law did not yet permit the wholesale acquisition of land, or even the pooling of ownerships for the purposes of a scheme, but it was fairly certain that some definite powers of acquisition and re-disposal of land would have to be included, at any rate for particular areas. The principle of the Lex Adickes, allowing for the compulsory pooling of ownerships and subsequent re-distribution of the resulting plots, had worked well for vacant land, but in the case of a built area the operation would in many cases have to extend over a prolonged period, rendering purchase and resale almost the only possible method.

The powers definitely to lay down building lines under the Roads Improvement Act, 1925, and to prescribe improvement lines for future widenings under the Public Health Act, 1925 (naturally just the other way round to what one would expect), were likely to prove of very great advantage in enabling building and improvement lines to be laid down as and when required. This most important question of the period when claims for compensation or betterment had to be made could not be regarded as altogether satisfactory, and it would in most cases be better if such claims were deferred until the actual execution of the works, rather than the mere making and approval of the scheme. Some statutory authority for regional planning was also essential, with adequate powers of finance. At present, with one or two exceptions, the regional committees so far constituted were appointed in an advisory capacity only, and it was open to any one of the contributory local authorities to refuse to carry out their particular part of the scheme. This was a real weakness in the present position, which must needs be put straight if the very valuable work which had already been done by regional committees was not to be endangered.

So far as Greater London was concerned, it was becoming clear that any regional authority must have adequate finance, obtained either by direct rating or precept over a very large area.

Some definite means of implementing and putting into execution a regional planning scheme must be devised, and it could not be left to the whim of any authority, however small in its area or ideas, to decline to take action, which might be essential for the welfare of its neighbours. The need for financial adjustment as between authorities in adjoining districts was one which called for early and authoritative settlement. In many cases an important borough or town had to plan the development of portions of adjoining rural districts. The smaller authority, with its low rateable value, was unable to offer any substantial contribution to the works within its area. If these were to be done at all, it could only be by a joint authority or by the central authority taking the necessary action, even although the area concerned is not within its own district. Any financial adjustment to meet such a case as this must (*a*) provide for the initial expenditure and interest charges; (*b*) provide for the subsequent distribution of the burden in such a way as to be fair to all sides, not only now, but at all stages of the scheme. The subject was a very thorny one, but until a satisfactory and permanent solution is obtained, progress must be to some extent retarded.

SIR G. HUME (L.C.C.) proposed a vote of thanks to the President and explained the position of the seven town-planning schemes which the Council now has in hand. He expressed the opinion that the Council was wide awake to the problem and appealed to the Institute to see that public opinion was educated to a stage which would permit of the body which had to deal with the finance of the matter to go forward.

MR. MONTAGU HARRIS seconded the motion and referred to the fact that on the Continent where the financial position was just as stringent there was evidence of more boldness in carrying out great improvement works.

The motion was carried, and the PRESIDENT pointed out that it was to the people who emerged from the Napoleonic wars that they owed Regent-street and Regent's Park and the other works which marked that period.

SURVEYORS' INSTITUTION.

PRESIDENTIAL ADDRESS.

MR. DENDY WATNEY, President, delivered his opening address to this Institution on Monday evening last. Having referred to the fact that his father was one of its original members, and for very many years had devoted much of his time to its advancement, both as a Member of Council and also as President, the speaker went on to deal with a great variety of questions of special and general interest. Referring to the growth of London, he said there would seem to be two directions in which we must mainly look for a solution of this problem: (1) A considerable extension of the tube system with express as well as stopping trains; and (2) public control of the future development both of built-up areas and areas still undeveloped. The exercise of planning control over areas at present undeveloped was already possible under existing statutes. Town-planning schemes were in course of preparation for all the growing districts surrounding London, and, perhaps still more important, provision was being made for co-operation between adjoining districts by means of joint committees for regional planning. Built-up areas, however, presented greater difficulties. Such land did not come within the scope of the Town-Planning Act, unless so situated with respect to any land likely to be used for building purposes that the general object of the scheme would be better secured by its inclusion. Opinion, however, appeared to be crystallising in favour of some further control of built-up areas. On this subject Mr. Topham Forrest's report of May, 1925, to the London County Council would well repay perusal. It dealt more particularly with the ordinances adopted by some of the larger American cities; and though, doubtless, differences of opinion would arise here as to the extent to which the principles underlying such ordinances could usefully be adapted to meet the requirements of the far older towns of this country, it contained much matter which might well be digested by those who were responsible for the management of urban property. The County of London, for example, comprised 74,816 acres. In this great expanse of town the most difficult traffic and administrative problems arose, and it was almost inconceivable that the gradual redevelopment of so large and congested an area should be permitted to continue without some central supervision for safeguarding the health, moral or physical, of the inhabitants, for meeting the traffic requirements, and for preventing the deterioration of districts therein.

The direction in which control or supervision might be needed could be divided under (*a*) town planning proper, or the lay-out of the principal arterial and secondary roads required for facilitating traffic, and (*b*) zoning, or the segregation of areas for special user. Of these the former should not give rise to any insuperable difficulty. An extension of the existing Town-Planning Acts to built-up areas, with special provisions to obviate hardship on individuals where the formation of open spaces or new streets, or the widening of old ones, might prevent the redevelopment of their property, should meet the case. Provided that the new lay-out maps were prepared in good time, and with the collaboration of property-owners and other persons interested, it should be possible in future to provide for this class of improvement without any undue burden upon the ratepayer, certainly at considerably less cost than was practicable under existing conditions. With regard to zoning, however, he felt that he was touching on rather delicate ground. Nearly two years ago a Committee, set up by the Council in response to a request by the London County Council for the views of the Institution on zoning in the metropolis, presented a somewhat inconclusive report. It was agreed that if a form of control over user, or changes in user, were to be exercised, it should be applied as part of a general plan in the preparation of which the views of owners, lessees and occupiers should receive careful consideration; that the constitution of the controlling authority was of supreme importance if its decisions were to inspire confidence among the various classes concerned; that the controlling authority should be either the London County Council itself or an *ad hoc* body representative of all interests; and that there should be some form of appeal,

as in the case of the London Building Acts, from the decisions of the authority. There was, however, considerable divergence of opinion as to the desirability of zoning in an old-established community such as London.

Having referred to various metropolitan improvements of recent years, the speaker made special reference to the rebuilding of Regent-street, observing that, from the point of view of the surveyor, the advantages of the change from a material point of view were important. The widening of Beak-street and Glasshouse-street to 40 ft., the closing of Warwick-street, the provision of a through connection to Bond-street by the widening of Vigo-street, and the reconstruction of Piccadilly-circus, all tended to the improvement of the district. How great and how speedy this had been might to some extent be measured in cash by the increase in the rental return to the Crown. In 1913 the total gross rentals from the Crown property in Regent-street, including three or four premises, such as the Piccadilly Hotel, which had already been rebuilt, amounted to £44,070; last year, on the new or renewed leases coming into operation, the total gross rentals, including some peppercorn and half-rents, amounted to £315,229. This enormous increase in value was confirmed by an examination of the quinquennial valuations for 1910 and 1925. The assessments from Langham-place to Piccadilly-circus, not including the Louvre building and Peter Robinson, Ltd., which were rated as Oxford-street, in the years mentioned were:—

	Gross Assessment.	Rateable Assessment.
1910 ...	£247,352 ...	£206,189
1925 ...	£551,260 ...	£454,765

In comparing these assessments something approaching 25 to 30 per cent. should be added to the 1925 figures in respect of premises not yet completed or occupied. Figures such as these pointed to the difficulty confronting surveyors in making valuations.

Having dealt with housing progress, the speaker turned to the Rent Restrictions Acts, and asked what would be the effect of the strenuous efforts made within the last few years to meet the housing shortage? Would it be possible to withdraw all control at the end of next year when the 1925 Act was due automatically to come to an end? He then dealt shortly with the three principal provisions of this legislation: (1) Rent control; (2) security of tenure; and (3) control of mortgages. The provisions with regard to rent control were, he said, without doubt the most important in the view of the great majority of occupiers, and therefore the most difficult to withdraw. They were, at the same time, the most unsatisfactory in that they were based upon standard rents which were not consistent with each other in different parts of the country, nor, indeed, even in the same district, at the date when this basis of reckoning was adopted. Since then various additions to the standard rent had been permitted, but there had been no uniformity among house-owners in putting their powers with regard to these increases into force. He thought it probable that where the full 40 per cent. authorised under the 1920 Act had been added to standard rent based upon a full pre-war rent, the rents now paid would frequently be found to be too high. Trade depression and present-day conditions with regard to work and wages would seem in such cases to point to a reduction of rent rather than to its increase. As the shortage of houses was overcome, moreover, it was, in his opinion, not unlikely that the rentals of the older houses might show a tendency to fall. His reason for taking this view was that, as more accommodation was provided, the sanitary authorities would take steps to enforce the regulations with regard to overcrowding. Under existing conditions, however desirable such action might be, it was frequently impracticable owing to lack of alternative accommodation for the displaced occupants. As, however, overcrowding was stopped, tenants who had formerly sub-let might find themselves unable to meet the rents previously paid, and the owners would have to be content to accept rents within the reduced means of their tenants. For these reasons he was of opinion that so far as the lower-rented houses were concerned, say from £50 to £60 gross, a withdrawal of the restrictions would not result in a general attempt to increase the rents. The position, however, would be different with regard to the higher-rented houses now protected. In connection with these he thought it probable that increases might be general until the shortage was made good. One thing, however, was self-evident; the present position was haphazard and unfair. It unduly favoured house-owners who, before the war, extracted the highest possible rents from their tenants, while more considerate owners were prejudiced. Not only had the standard rents of their property been stabilised at a low datum level for many years, but the amount of increase allowed, being calculated upon a percentage of the standard rent, was proportionately reduced. In the case of such properties as those a withdrawal of restrictions might be attended by demands for increases of rent, which, though right and proper in comparison with those paid for similar houses in the neighbourhood, might arouse considerable opposition and disturbance.

Security of tenure, although the term appeared in some quarters to possess the comforting qualities attached to the word "Mesopotamia" by the old lady in the story, presented fewer difficulties to persons of experience and knowledge. Apart from any question of rent, the withdrawal from the owner of the general control of his property meant that, in spite of the safeguards set out in Section 5 of the 1920 Act, he found it almost impossible in practice to get rid of undesirable tenants, to put to more valuable uses land at present occupied by working-class property, to carry out works which might be highly desirable in the public interest, or to secure possession of a house for his own occupation. It seemed essential that those drawbacks should be removed. The security of tenure given under the Acts had also a tendency to prevent movement of labour, even where housing accommodation had been provided in other neighbourhoods. The workman hesitated to leave his present house where he felt secure. The removal of control might tend, in this respect, to promote the building of new houses, and should, therefore, do something towards effecting a revision of rents. There was little he need say with regard to the control of mortgages. While control had doubtless caused much inconvenience, particularly where trusts had to be wound up, it might appear illogical to remove it while the control of rents, etc., remained; but he was inclined to think that the time was now approaching when the restrictive legislation on mortgages might be withdrawn without inflicting undue hardship on the borrower, who it would be remembered, had been able to increase his rents by 40 per cent., and should, therefore, have little difficulty in obtaining another advance if required.

Turning to matters of domestic interest, the President said the education system, qualifying for membership, had now been in operation for 45 years, and had, without question, fully justified the anticipations of those responsible for its introduction in 1881. Since that date 17,700 candidates had presented themselves for the professional examinations, and of these 11,400 or 64 per cent. had satisfied the examiners and secured a pass. It would be difficult to over-estimate the effect of the concentration and study indicated by those figures in raising the standard of knowledge in the profession during the past generation, but an eloquent tribute was paid to the work of the Institution in that respect by the Agricultural Reconstruction Committee, of which Lord Selborne was chairman, in their report of 1918. Of late the Council had been somewhat exercised by the diminution in the percentage of passes in the Intermediate and Final Examinations. For the past five years those had been in the neighbourhood of 55 per cent. in place of the average of 64 per cent. for the whole period. A question therefore arose as to the reason for this decrease. Must it be attributed to the examinations themselves, or to some shortcoming on the part of the candidates? There could, to his mind, be no doubt that recent legislation in matters such as rating, taxation, town planning, public health, agricultural tenure, and the like, had made greater and greater demands upon the knowledge and understanding of candidates, and that an alert and active brain had become more and more necessary if essential principles were to be properly grasped. To secure this, the brain should be thoroughly trained by means of a sound course of general education before the professional studies were begun. A scrutiny of the examiners' reports pointed to the conclusion that the advance in the preliminary education of candidates had not kept pace with the demands with which they must, under existing strenuous conditions, inevitably be faced later. In their profession, equally with the so-called learned professions of law and medicine, the active and well-drilled mind was becoming more and more an essential to success, and it was for that reason that the Council had made a first step in requiring all candidates for the Intermediate after 1928 to pass a test of general education. The time might come when something approaching matriculation standard might be required for that purpose.

MEETINGS

FRIDAY, *November* 12.

Glasgow Architectural Craftsmen's Society.—Mr. Jas. Macaulay on "Regional Planning." 7.45 p.m.

Institution of Electrical Engineers.—Mr. J. Sclar on "A Comparison of Electrical Wiring Installations and Analysis of their Costs." At University College, Dundee. 7.30 p.m.

Royal Academy of Arts.—Professor A. P. Laurie on "Painting Media: Oils, Varnishes, and Tempera." Burlington House, W. 4 p.m.

MONDAY, *November* 15.

Royal Institute of British Architects.—Mr. H. V. Lanchester, F.R.I.B.A., on "Bridges and Traffic." 8 p.m.

Edinburgh Architectural Association.—Mr. Basil Scott on "Structural Steelwork."

Royal Academy of Arts.—Professor A. P. Laurie on "Modern Pigments: Their Proper Selection and Use." Burlington House, W. 4 p.m.

TUESDAY, *November* 16.

Royal Institution.—Mr. G. W. C. Kaye on "Acoustics of Public Buildings." At 21, Albemarle-street, W. 1. 5.15 p.m.

The Institution of Civil Engineers.—Discussion on "H.M. Dockyard, Rosyth," by Messrs. T. B. Hunter and A. L. Bell. 6 p.m.

London Society.—Visit to Westminster Cathedral.

Royal Academy of Arts.—Professor A. P. Laurie on "Methods of Wall Painting." 4 p.m.

WEDNESDAY, *November* 17.

Liverpool Architectural Society.—Mr. A. J. Davis, F.R.I.B.A., on "Architecture in North Africa."

Royal Academy of Arts.—Professor A. P. Laurie on "Recent Researches on the Preservation of Ancient Buildings and Stone Decay." At Burlington House, W. 1. 4 p.m.

THURSDAY, *November* 18.

Royal Institution of Great Britain.—Mr. R. R. Marett on "The Archæology of the Channel Islands: Palæolithic Period." 5.15 p.m.

Hackney Public Lectures.—Mr. P. W. Lovell on "London as It Was, as It Is, as It Might Be." At the Central Library, E. 8.

Design and Industries Association.—Annual Dinner. At Kettner's Restaurant.

Victoria and Albert Museum.—Mr. H. C. Marillier on "English and Irish Glass." At South Kensington, S.W. 7. 5.30 p.m.

FRIDAY, *November* 19.

London Society.—Mr. G. Topham Forrest on "London One Hundred Years Hence." At 18, John-street, Adelphi, W.C. 2. 5 p.m.

SPECIFICATIONS.—XLII

By H. V. MILNES EMERSON, A.R.I.B.A.

HEATING ENGINEERS (*Continued*).

TABLE OF SQUARE FEET OF RADIATION IN PIPE SURFACES.

Size of Pipe in inches.	Length of Pipe in feet.													
	1	2	3	4	5	6	7	8	9	10	15	20	50	100
½ ..	·221	·4	·7	·9	1·1	1·3	1·5	1·8	2·0	2·2	3·3	4·4	11·0	22·1
¾ ..	·275	·5	·8	1·1	1·4	1·6	1·9	2·2	2·5	2·7	4·1	5·5	13·8	27·5
1 ..	·346	·7	1·0	1·4	1·7	2·1	2·4	2·8	3·1	3·5	5·2	6·9	17·3	34·6
1¼ ..	·434	·9	1·3	1·7	2·2	2·6	3·0	3·5	3·9	4·3	6·5	8·7	21·7	43·4
1½ ..	·494	1·0	1·5	2·0	2·4	2·9	3·4	3·9	4·4	4·9	7·4	9·9	24·7	49·4
2 ..	·622	1·2	1·9	2·5	3·1	3·7	4·4	5·0	5·6	6·2	9·3	12·5	31·1	62·2
2½ ..	·753	1·5	2·3	3·0	3·8	4·5	5·3	6·0	6·8	7·5	11·3	15·0	37·6	75·3
3 ..	·916	1·8	2·7	3·6	4·6	5·5	6·4	7·3	8·2	9·1	13·7	18·3	45·8	91·6
3½ ..	1·046	2·0	3·1	4·2	5·2	6·3	7·3	8·4	9·4	10·5	15·7	20·9	52·3	104·6
4 ..	1·175	2·4	3·5	4·7	5·8	7·0	8·2	9·4	10·6	11·8	17·6	23·5	58·7	117·5
5 ..	1·455	2·9	4·4	5·8	7·3	8·7	10·2	11·6	13·1	14·6	21·8	29·1	72·7	145·5
6 ..	1·739	3·5	5·2	7·0	8·7	10·5	12·1	13·9	15·7	17·4	26·1	34·8	87·0	173·9

The square feet of radiation for other lengths of pipes can be ascertained by multiplying the radiation for one foot of pipe by the length of pipe proposed to be used.

When a building is of large dimensions, or where several buildings have to be heated from one centre, or where the levels are such that convenient and suitable runs cannot be obtained for the various pipes in accordance with the laws governing natural circulation, it will be necessary to provide a supplementary apparatus to generate the power required for maintaining the circulation. This power may be introduced from an electric supply installation or a steam or oil engine, with a centrifugal pump or similar device, which increases the pressure in the flow-pipe and decreases that in the return pipe, but failure of the power supply in any part of the apparatus will stop the circulation and may lead to damage to the system.

Another method of increasing circulation is to carry the flow pipe vertically from the boiler to the top of the system, and to raise the temperature of the water in the boiler above boiling-point at atmospheric pressure, producing an emulsion of steam and water instead of solid hot water in the rising pipe. This column of water is much lighter than the solid column of water and by this means a considerable increase can be made in the circulating force. The water in the rising pipe is discharged into the expansion tank and the steam disengaging itself from the water is either allowed to escape into the open air, thus causing loss of heat, or preferably is brought in contact with the cool return water and condensed. This system of acceleration entails the necessity of boiling the water with a corresponding increased consumption of fuel.

Another system in use is one which obviates the disadvantage of want of control. Air is forced into the rising pipe by increasing its pressure by means of steam power. This produces an emulsification of the water, as with boiling the water, but without unduly increasing its temperature and the apparatus can be worked at any required temperature.

STEAM HEATING.—Low-pressure steam, from 5 to 10 lb. per sq. in., is generally used for heating systems. The piping is similar to that used with water as the medium. Owing to excessive temperature of heating surface it is undesirable to raise the pressure of steam above that given. A more desirable range is from minus 5 lb. to atmospheric pressure, but this can only be done by the aid of mechanical power for removing the air which will find its way into any vacuum by leakage. The method employed is the provision of a vacuum or suction pump at the end of the return pipe, thereby sucking the condensed water and air out of the return pipe and maintaining artificially a low-pressure throughout the system. A special form of steam trap is required at each radiator and coil, to prevent as far as possible the drawing of steam and vapour into the return pipe. Reducing valves, separators, &c., are introduced as required in order to maintain the [steam entering the system at a constant pressure. By these means considerable latitude can be obtained in the fixing of the return pipes, enabling the condensed water to be returned to any part of the system where it would not flow itself. A proper and efficient drainage of the steam main is one of the most essential things in atmospheric steam heating. Generally steam heating is more expensive than hot water heating, but in works employing steam as power, the waste steam can be used with advantage for heating purposes.

VENTILATION.

The function of ventilation is to promote a comfortable and healthy atmosphere in our buildings by (1) removing the surplus heat given off from the bodies of people in the room; (2) removing the carbon dioxide and organic vapours also given off from their bodies; (3) removing the water vapour given off from their bodies; (4) removing the dust which collects in all closed occupied spaces.

1. The amount of heat given off from a human body depends on the individual and the work he is doing, as follows:—

Man ..	Hard work ..	550	B.T.U.'s emitted per hour.
	Resting ..	380	
	Sleeping ..	250	
Woman	Hard work ..	450	
	Resting ..	320	
	Sleeping ..	220	
Child ..	Playing ..	250	
	Resting ..	200	
	Sleeping ..	180	

The average amount of heat to be removed per hour from an ordinary audience may be taken at 350 B.T.U.

2. CARBON-DIOXIDE.—The amount of carbon dioxide (CO_2) normally emitted by a human being also varies according to the work the person is doing, as follows:—

Adult ..	Hard work ..	1·25	cubic ft. per hour.
	Normal work ..	·9	
	Resting ..	·7	
	Sleeping ..	·6	
Child		·3 to ·5	

The excess amount of CO_2 in inside air over that outside is a rough index of the rate of ventilation which is proceeding per person, and this rate of ventilation may be approximately measured by comparing the analysis of the CO_2 in inside and outside air.

The amount of CO_2 contained in outside air is as follows:—

Pure air ..	·25 cub. ft. CO_2	In 10,000 cubic ft. of air.
Normal air (City)	·4 „ „	
Bad street air (City) ..	·5 „ „	

The normal composition of inside air is as follows:—

Cub. ft. of fresh air supplied per person per hour.	Cubic feet of CO_2 in 10,000 of room air	
600	16·0 to 20·0	Assuming the outside air contains 4 parts per 10,000.
1,000	11·0 to 13·0	
1,500	8·5 to 10·0	
3,500	5·5 to 6·5	

3. WATER VAPOUR.—The amount of water vapour emitted by the human body also depends to a great extent on the condition of the person and of the surrounding air. The amount is as follows:—

	Lbs. per hr.
Adult—	
Hard work in high temperature ..	·3 to ·5
Resting in low temperature ..	·03 to ·05
Child—	
Playing in hot weather	·15 to ·25
Sleeping	·01 to ·02

4. DUST.—The amount of dust in the air varies and may consist of micro-organisms or of inorganic particles (dead dust). The greater majority of micro-organisms are innocuous and disease germs if not excessively vigorous are harmless to a healthy person.

Outside air contains about	23	Micro-organisms per cubic foot.
Clean indoor air	250	
Average	1,000	
Bad or very dusty air	23,000	
The normal atmosphere in open air (country) =	4 parts	CO_2 in 10,000.
Do. do. living room =	6 „	
Unhealthy do. do. =	9 „	
Poisonous do. do. =	12 „	

The quantity of air desirable to be supplied per hour to any room depends on the number of persons present; on the humidity and temperature of the atmosphere of the room; on the cleanliness of the persons and the nature of their work; on the amount of dust and dirt, and on other conditions.

The quantities of air per person per hour cases are as follows:—

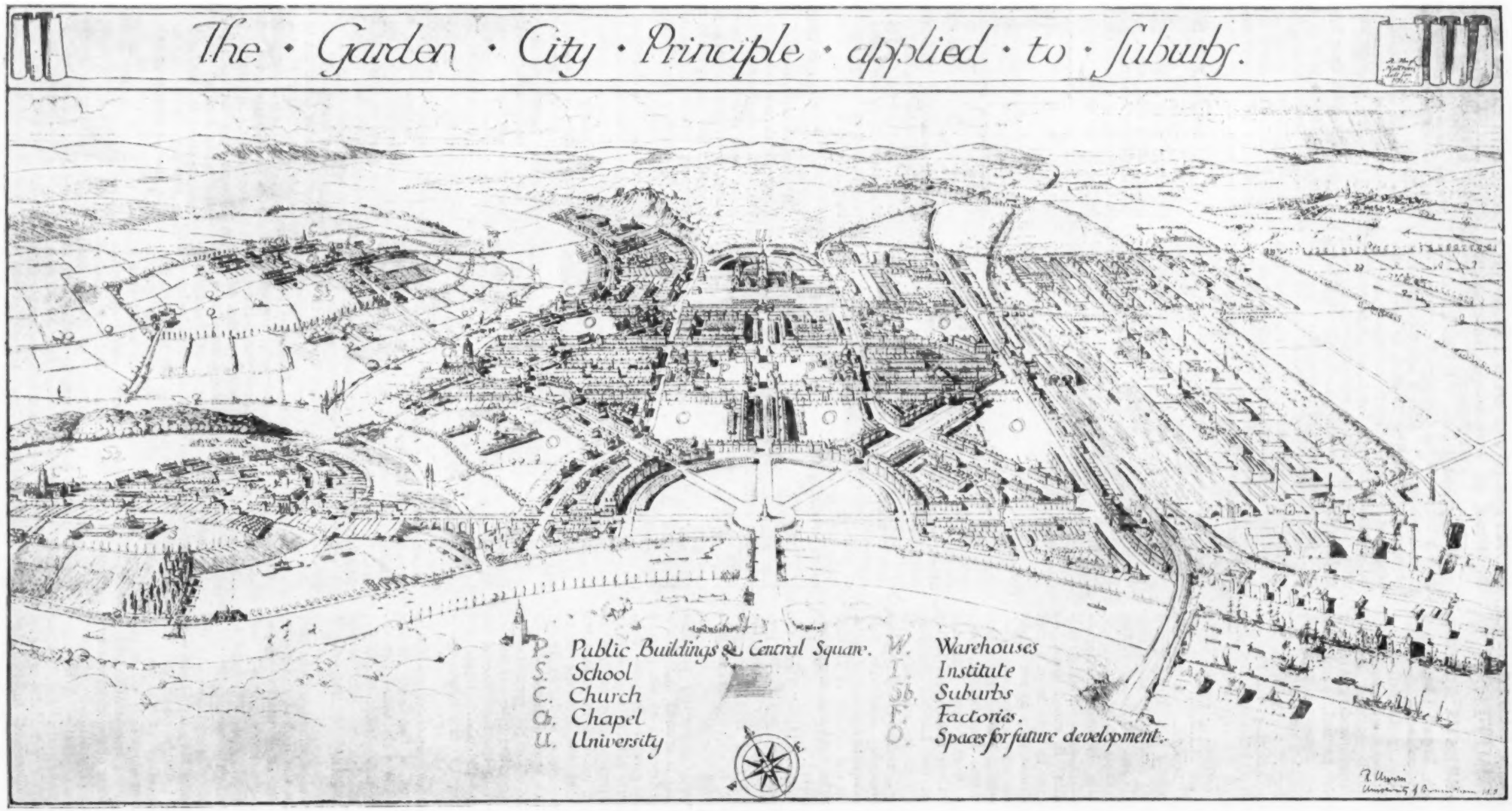
Min. for crowded rooms	1,000	cub. ft. per person per hour.
Ordinary good ventilation for schoolrooms, workrooms, &c. ..	2,000	
Very good ventilation ..	3,000	
Hospitals	5,000	

The humidity of air for respiration is an important factor in ventilation. In a heavy, moist-laden atmosphere, the natural action of the skin in expelling the waste products of metabolism is very materially retarded, and a dry atmosphere will cause stuffiness, thirst and headache. The temperatures can be observed by means of a wet and dry-bulb thermometer which affords a criterion of the relative humidity of the air. The air is generally too dry at ordinary temperature (60 to 65 deg. F.) when the dry bulb is 10 deg. higher than the wet bulb, and too moist when the difference is less than 5 deg. These figures correspond approximately to relative humidities of about 50 and 75 per cent. The relative humidity should not fall below 50 per cent. nor exceed 70 per cent. Below 50 per cent. produces a dry, stuffy atmosphere, and above 70 an atmosphere resulting in lassitude and inertia.

The following table gives the approximate relative temperatures by the wet and dry-bulb thermometer under varying degrees of humidity, also the amount of moisture contained per cubic foot of air:—

Dry bulb temperature.	50° F.			60° F.			70° F.		
Degree of saturation, per cent.	50	60	70	50	60	70	50	60	70
Corresponding wet-bulb temperature (deg. F.)	42	44	47	51	53	55	59	61	64
Water contained per cubic foot, in grains ..	2·0	2·5	3·0	3·0	3·5	4·1	4·0	4·8	5·7

DRAUGHT.—A draught can be described as a current of air perceptible to the skin. A velocity of 4 ft. per second is commonly perceptible and 3 ft. per second is felt by an ordinary person as refreshing. The required quantity of ventilating air must be introduced in such a manner that no portion of it at a considerable velocity or at a temperature much below that of the ordinary air in the room can impinge on the body of any person.



Bird's-eye View of Garden City Lay-out.

BY DR. RAYMOND UNWIN, F.R.I.B.A. (*See page* 794.)

R.I.B.A. LONDON BUILDING ACTS COMMITTEE.

MR. TOPHAM FORREST'S REPORT.

THE Council of the Royal Institute of British Architects have published the report sent to the London County Council, based upon the investigations into the building regulation by-laws, etc, made by Mr. Topham Forrest, F.R.I.B.A., Superintending Architect to the London County Council, during his recent visit to America. Speaking generally, the report is favourable to a more liberal and up-to-date policy in regard to the Acts, by-laws and regulations affecting building in London, and the recommendations are frequently on the lines of the report upon the amendment of the London Building Acts already submitted by the R.I.B.A. Council to the London County Council. While the Council in the main concur with Mr. Topham Forrest's opinions, in a number of cases they suggest modifications, and in one or two instances they frankly disagree.

In clause (1) of the Recommendations—"That appropriate relaxation of building regulations may be permitted in zoned areas"—the Institute Council are in agreement except in so far as the regulations refer to the height of buildings; while with regard to clause (2)—"That the Council should publish a comprehensive volume of Acts, Regulations, etc., relating to building work"—the Institute Council state that in their first report to the L.C.C. they said that the London Building Act of 1894, together with its amending Act, have become so involved, and in many respects so inapplicable to present-day conditions, that it is essential for the adequate conduct of architecture and building in the County of London that these Acts should be forthwith simplified, amended and consolidated.

With regard to clause (4)—"That the Council should seek general powers to prescribe building lines"—the reply is that the Roads Improvement Act of 1925 apparently covers recommendation 4, and appears to provide the powers required.

Mr. Topham Forrest's clause (6) provides "that where a building is erected so that the whole or a part of its frontage at the ground level is situate at a greater distance than 65 ft. from the opposite side of the roadway or of an open space permanently secured as such, the height of the building may, for such portion of its width as the frontage is so situated, be increased beyond 80 ft. by 18 in. for every foot by which such distance exceeds 65 ft., but no increase of height permitted by this relaxation shall, together with any stories which may be erected in the roof, exceed an overall height of one-and-a-half times the width of the street, or 120 ft., whichever is the less.

"The greater height so permitted should be applicable for a portion of the depth of the building abutting on the wide street not exceeding the width of that street, or 80 ft., whichever is the less; the remainder of the building should be governed by the present limits of height.

"That the two stories which by the Act may be constructed in the roof of a domestic building should be permitted within vertical walls, provided that the walls are set back within the angle of 75 degrees, stipulated by the Act for the stories in the roof."

With regard to this clause, however, the Institute Council say that they adhere to their view, repeatedly and publicly expressed, that no alteration or relaxation of the existing regulations should be made which would permit of any increase in the height of buildings in London; while in view of the improvements in artificial lighting and ventilation they are unable to agree to clause (12)—"That office workrooms, trade kitchens, refreshment rooms for the use of the public should be provided with adequate means of natural lighting and ventilation."

Generally speaking, however, Mr. Topham Forrest's report is in accordance with the views expressed by the Council of the R.I.B.A.

NORTHERN POLYTECHNIC

Department of Architecture, Surveying and Building.

Dr. Raymond Unwin, F.R.I.B.A., recently gave a lecture at the Northern Polytechnic on "Town Planning." After a short explanation of what town planning implied, he said it was as useless to expect to secure an orderly, beautiful, or efficient town by haphazard, uncontrolled growth as it would be to expect a well-designed building if there were no plan for the whole, and each person who wanted a room was allowed to add one as he thought fit. Towns were at least as important as buildings, and the time had passed when we could afford to allow them to grow in this chaotic way.

Although town planning in its present form was regarded as a comparatively new art, historically there had been towns deliberately planned since Roman times. A number of views were shown on the screen, illustrating Mediæval and Renaissance town planning, emphasising the fact that the architectural value of buildings owed a great deal to the setting in which they were placed. This was exemplified in such towns as Nancy, Rothenburg, Karlsruhe and parts of Rome. In Turin a really fine effect obtained with comparatively ordinary buildings was almost entirely due to town planning.

Modern examples of German town planning, and views of various American cities, showed the conditions which arose where uncontrolled development was allowed to go too far. These views, with their overhead railways and double-decked streets, showed clearly how traffic congestion resulted from building congestion, and that if traffic conditions were not to become impossible, it was our duty to limit the density of buildings. The lecturer pointed out the undesirability of allowing towns to spread out to an indefinite size, and illustrated with diagrams how, after a certain size had been reached, further growth should be in the form of more or less self-contained satellite towns, separated from the central city and from each other by belts of open space, parks, or farm-lands that were not to be used for building operations. In this way healthy conditions with opportunities for open air recreation would be available for everyone. A series of perspective views explained how such a town might grow, and illustrated also the importance of zoning and keeping the different parts of the town in their right relation, of preventing shops and houses being mixed up in one street, and of keeping the industrial buildings separate from the residential and business districts.

Another set of diagrams showed that overcrowding was actually uneconomic, and that because of the wasteful development of roads which it necessitated, a man who built 20 houses to the acre was not able to give anything like as good value for money as the man who built only 10 or 12 to the acre. When there were 20 houses to the acre instead of 10 they did not have half as much garden; in fact, they had considerably less than half. Views of Hampstead Garden Suburb, Welwyn Garden City, and other planned areas contrasted with views of ordinary speculative developments around London illustrated the great difference that town planning could make in the life of the people.

Slides were shown of the Doncaster Regional plan and other recent schemes illustrating the large extent of the work that was being undertaken in this country. Unfortunately, said the speaker, town-planning schemes were not applied at present to built-up areas, and the completely rural areas were also neglected unless included in a scheme by some neighbouring town; in consequence, much of the country was still in danger of being spoilt. It was hoped that in some cases County Councils would undertake planning and that further regional schemes would develop. The Minister of Health had promised a Bill in the future to enable them to include built-up areas in town planning schemes.

The lecture was followed by questions, chiefly on the subject of how it was more economical to build 12 houses to the acre than a larger number. Dr. Unwin explained these points further with diagrams on the blackboard. (See plan on page 793.)

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

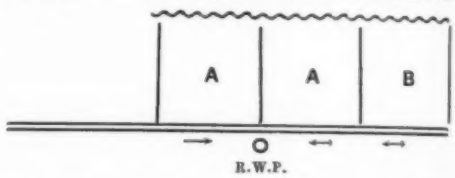
May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Varnish Over Pitch Pine.

SIR,—What should I do to old varnish over pitch pine before staining with oak matsine in order to show the grain of the natural wood again? The old work is fairly clean, with the exception of one or two places which are injured by the sun.

Responsibility for R.W.P.

SIR,—I would be glad of information on the following point:—The roofs of three terrace houses drain into one eaves gutter, from which the rain water is carried down a R.W.P. placed in the centre of two of the houses. These two belong to one owner (A) and the third house to



another owner (B). The entire length of R.W.P. is old and defective, and is to be replaced with new. Can the owner (A) of two houses call upon the owner (B) to contribute one-third of the cost (about £4) of supplying and fixing a new R.W.P., &c.? E. W.

Contract Question.

SIR,—The replies which you have published dealing with my query as to the maintenance clause in a contract do not quite answer the point upon which I have been in doubt. The building erected is in a particularly exposed position, and one open to strong driving wind and rain. In such a position I doubt whether joinery could be made from the stocks of timber available since the war; they would not work that tiny fraction of an inch which makes all the difference between a tight job and either a binding or a leaking window. In such a case, can this be honestly called a defect due to faulty workmanship or materials? I would explain that I am particularly satisfied with the class of joinery turned out on this job, but am in doubt as to the interpretation of this particular part of the contract. DOUBTFUL.

Fall of Drain.

[REPLY TO MR. C. A. BARBER, NOVEMBER 5.]

SIR,—The fall of the drain as described is certainly inadequate for a soil-carrying drain, but on the principle that a sluggish drain is better than no drain at all or a cess-pit, it is better to make the best of a bad job by fitting up at the head of the drain an automatic flushing cistern which will introduce periodically a flush of water sufficient to carry on the sewage which is so likely to congeal upon the invert of the pipes of a sluggish drain. In similar cases it is sometimes an advantage to drain the cottages into a septic tank, discharging the effluent into the main drain instead of into a filter. By turning the drain into a liquid-bearing drain, the lack of fall is not such a serious matter provided the fall is even, since liquids will always find their own level. SANITARY.

Compo Board, &c.

SIR,—Can you put me in touch with makes of compo. board or asbestos sheeting which would be suitable for use as permanent centering for concrete floor work, leaving a finished ceiling surface between the girders? The type of material would have to be cheap, strong enough to carry 6 in. of concrete until set, and of a nature which will not suffer through the damp of the concrete or the alkalis in the cement.

SPEED.

THE BUILDING TRADE

BUILDING CONTRACTS

By W. T. CRESWELL Barrister-at-Law L.R.I.B.A.; Associate (late Fellow) Surveyors' Institution; author of "The Law Relating to Building and Building Contracts.

RETENTION MONIES—(II).

In general the clause in a building contract which refers to the manner of payment to the contractor is worded so as plainly to indicate that he can only be paid for work done on the certificate of the architect.

Conscience of the Architect.

It is the duty of the architect to give the certificate according to his own conscience, and in accordance with the contract, and in no way to follow the particular wishes of his employer in the matter.

In Hickman & Co. *v.* Roberts (1913, A.C. 229) the decision of the architect on all matters involved in a building contract was to be taken as final, conclusive, and binding on all parties; and payments were to be made as the work proceeded on his certificate. He took a wrong view of his position, and, being improperly influenced by the building owners, delayed issuing his final certificate for the outstanding balance due to the contractor. It was held that the building owners could not, as a defence to the action, rely on the issue of the certificate being a condition precedent to the right of the contractor to commence proceedings for the recovery of the balance.

The Certificate a Condition Precedent.

The certificate is only a condition precedent to payment when it is given by the architect "according to his own conscience," and ceases to be so when he is acting under the influence and instructions of the employer. The contractor is, subject to the architect's decision to issue or withhold any certificate, although such certificate may be reviewed under the arbitration clause when there is one, if a dispute has arisen, even before the completion of the contract works.

In the following Scotch case the certificate was not a condition precedent, viz., Howden *v.* Powell Duffryn Steam Coal Co. (1912, S.C. 920, Ct. of Sess.), in which there was a contract for the supply of machinery and there were clauses merely containing provisions for payment of the price of the machinery by instalment, payable within 14 days after the production of the certificate of the purchasers' engineer, certifying such instalments were due and payable, but no provisions that the engineer's decision was to be final. A portion of the machinery was rejected by the engineer; in spite of this the contractor sought to recover payment without his certificate. It was held that, under the wording of this contract, the production of a certificate from the engineer had not been made a condition precedent to the right to sue to recover payment, and that the action was therefore competent, and must proceed in Court.

The Architect's Approval of the Work.

If the whole of the work included in the contract has to be performed to the approval of the architect he is not able to give a certificate of approval and payment for a part, and at the same time refuse to include approval and payment for the remainder of the work of which he does not approve. His final certificate must refer to the whole of the works contracted for, and since it is usual to date the maintenance period previously referred to from the certificate of satisfactory completion of the work, any delay in giving that certificate puts on the period of maintenance, so lengthening the period over which the retention monies are held as security by the employer.

Usually an interim or progress certificate is in the nature of a *qualified* approval by the architect of the work done at the time the certificate is given; and the giving of it does not in any way prevent the employer subsequently questioning the quality of the work so approved, nor the architect from refusing to certify his complete satisfaction later on.

It would therefore appear that an interim certificate is merely a certificate for payment and is a condition precedent to any interim payment; whereas that the final certificate is a certificate for payment on the approval of the architect. If, therefore, the latter, "according to his conscience," and not fraudulently, or under the influence of the employer or his own caprice, withholds the final adjustment and certificate of approval, then the only remedy open to the contractor is recourse to arbitration, if there is an arbitration clause. If there is no such clause, he has no remedy and cannot sue, unless he can show fraud or collusion. Wherefore no contractor should at any time sign any contract until an arbitration clause is included, and it is preferable that this clause should provide for arbitration at any juncture of the work; otherwise there is a risk of accumulation of disputes, making the final settlement very involved, and thereby the retention money may be long withheld.

A Remedy for the Contractor.

All these eventualities cause delay in the payment of retention monies to the contractor, and to guard against this the clause for payments and retentions should always be enlarged, including a provision for the contractor to be paid interest on all monies from the time when such should have been paid, an obligation being placed upon the contractor to give notice to the architect that he intends to claim from such and such a date in any instance involved. Also it should be provided that if a quantity surveyor has not been employed to prepare an interim certificate, the question of the amount overdue, and the time at which it should have been paid, shall be matters for arbitration in case of dispute. But in any case the employer is evidently anxious to avoid the payment of interest for sums overdue. Therefore dilatoriness on the part of the architect in certifying may result in a charge by the employer of negligence.

HINTS TO BUILDERS

By J. H. BARNS, F.I.O.B.

THE CARE OF STEEL CASEMENTS.

With the over-increasing use of steel sashes and casements it is becoming more and more necessary to consider the question of fixing and painting them so as to prevent corrosion and distortion through insufficient or unsuitable painting and improper fixing. In some cases where steel sashes have been in position for about ten years, instances have been known of the oxidation of the metal, causing a sufficient expansion to burst off the outer edges of the arch over or cill under, or the sash becoming distorted in shape so as to cause the glass to break or make the casements unworkable.

It is obviously impossible to generalise as to the cause of such defects. In the first instance, the steel sashes may be constructed of too light a section or improperly fabricated and not up to the standard of manufacture of the best makers of to-day, and with such deficiencies the tendency would be to throw the weight of the sash in the wrong direction and to cause distortion of the frames. In some cases the metal frames are accidentally made just a little too large in size to suit the opening and have to be forced into position, which may cause the sash slightly to buckle; or, if the sash is so tightly fixed as not to allow the possibility of any movement and a small settlement occurs in the building, this would have a tendency to place an undue strain upon the metal; again, the sashes may have been bedded in Portland cement which may possibly become cracked by the changes in temperature and, by letting in the weather, cause oxidation of the metal. Or, again, the sash may have been properly manufactured and painted at the works, but, during the transport to the building, may have been scratched or dropped on one of the corners and the joints slightly strained, which would break the film of paint and allow oxidation to commence.

It is therefore necessary for builders and building owners to take very great care to stipulate that the steel sashes are manufactured, fixed, and painted on the lines to secure the longest possible life and efficiency. During manufacture the steel section bars for sashes should be stretched and straightened and treated by some method of sand-blasting to remove the foundry scale or bloom and dirt, for, unless this is done, the painting to sashes will not prove sufficient protection to the steelwork. As soon as possible after manufacture the sashes should be coated with an anti-corrosive paint, which could be stoved on. The casements should be made of a sufficiently strong section suitable for the area of the window when completed.

With regard to the materials to be used for painting the steel sashes, several of the leading firms of paint manufacturers prepare special non-corrosive paints which, when applied in accordance with their directions, can be recommended, but all rust and dirt must be removed before the painting is commenced.

When the sashes are being fixed they should be bedded and pointed in some mastic compound which will not be liable to crack with the weather and thus prevent moisture from percolating into joints behind the frame and causing rust. The glass should be very carefully fixed, as, if it is improperly secured, it has a tendency to cause the casement to drop and go out of square. The best way is to wedge the glass in position with a small wedge on the top corner of the glass nearest to the closing style of the casement, as this will tend to place the glass in the position of a brace to the casement, whereas if the glass were wedged on the other corner of the square it would probably cause the casement to drop and become distorted in shape.

What usually happens to steel casements is that in the event of the casements dropping slightly and becoming difficult to open or shut, the local man is called in to do something, and his method is usually to file off a part of the casement to make it open freely. This, as a rule, is simply aggravating the trouble, as, if the steel sashes will not open freely because of some distortion, the casement maker should be called in to take out the sash and straighten out the distorted member or remedy what other defects may be causing the trouble. It should be borne in mind that however carefully the paint is applied to sashes there is always a likelihood of some of it being scraped off during building operations or by user afterwards, thus permitting the weather to attack the metal underneath.

BUILDERS BENEVOLENT INSTITUTION

THE seventy-fourth annual dinner of this Institution was held on Tuesday evening last, at the Hotel Victoria, when Mr. F. M. May, M.A., F.I.O.B., presided over a company numbering about 180, including the following: Messrs. Arthur Keen, J. M. Theobald, Victor Wilkins, A. S. Bennion, G. J. Aldous, A. B. H. Colls, C. J. Trollope, J. Graham Mallett, A. J. Forsdike, Percival Gleed, A. B. Falkner, F. Higgs, J. E. Drower, G. M. Burt, R. J. Holliday, Roland B. Chessum, Humphry Deane, H. T. Ripper, Major F. Thorne, M. W. Godson, Ben Carter, G. R. Holland, C. J. Bennett, A. Ritchie, G. H. Parker, H. L. Collard, John T. Bolding, E. Stanley Hall, J. S. Gibson, W. T. Faldo, T. S. Darbyshire, W. Begg Simpson, Horace Gilbert, J. A. Bowden, R. J. Troup, Major A. F. Vigor, Major A. D. S. Rice, Alner Hall, and the Secretary (W. J. Rudderham).

The customary loyal toasts having been honoured,

Mr. G. J. Aldous, M.C., A.I.O.B., proposing the toast of "The Builders' Benevolent Institution and Its President," said it was seventy-nine years since the Institution was founded by a few benevolent and public-spirited master builders. Since then it had continued to prosper and it had received the support not only of builders but of builders' merchants and allied tradesmen, and of their professional friends, the architects and surveyors. It was gratifying to record that the Institution had been able to grant a pension to every eligible candidate who had applied. They now had forty-six pensioners, and last year had distributed in pensions £1,551, as well as over £100 in temporary relief, and had been able to give to each pensioner a sum of £10 either for a holiday or to provide extra cheer at Christmas time. Last year, he continued, he had the honour to occupy the Presidential chair of the Institution, and in due course it became his duty to find a successor. Among the list of Past-Presidents he had noticed the names of William Cubitt (1850 and 1861), Benjamin Hannen (1886), his son Benjamin Hannen (1905), Lieut.-Col. G. R. Holland (1914-1919); and as Treasurer, from 1911 to 1925, their dear old friend, Frank May. He had thought, and the Committee had concurred, that they could not do better than try to induce Mr. F. M. May to accept office, and after some persuasion he had gladly accepted. Mr. May was a director of Holland & Hannen and Cubitts, Ltd., one of the biggest building firms in London. He had the interests of the Institution very closely at heart, and he (the speaker) felt that its affairs could not be in better hands.

"The Health of the President" was then toasted with musical honours.

The President, in reply, first thanked Mr. Aldous for the kind reference to his father, who, in spite of his advancing years, was in comparatively good health. He (the speaker) could assure them that he would do his utmost for the Institution and its pensioners during his year of office. Mr. Aldous had told them that the Institution was in a position to provide liberally for its pensioners; it was now able also to alleviate distress not only amongst builders but amongst builders' foremen and builders' clerks, the Institution having enlarged its powers to enable the Committee to make grants to other benevolent institutions connected with the building trade. The speaker then paid tributes to various gentlemen who had helped in the work of the Institution, including Mr. Archie Colls, a Past-President and son of a Past-President; Mr. John Bolding, who had attended his first Committee meeting of the Institution fifty-eight years ago—a wonderful record; Mr. Ben Carter; Mr. Foster; Mr. Ritchie; Mr. Chessum; and their Secretary, Mr. Rudderham, who was only too ready to help everybody. He hoped that those who so far had not helped the Institution would do so at the earliest opportunity. They had to think of those in distress who needed their generous support. He thanked all those—builders, builders' merchants, manufacturers, and others—who subscribed regularly year by year. The chaos of the last six months would perhaps have a bad effect on all charitable institutions, but in spite of all our post-war troubles there were signs and portents that our country would arise again like the proverbial phœnix from its ashes.

Mr. A. J. Forsdike (President of the Institute of Builders), proposed the toast of "The Architects and Surveyors" in an amusing speech that was much appreciated.

Mr. Arthur Keen, V.-P.R.I.B.A., responding for the architects, said one never knew when misfortune might come. The building trade offered large rewards to efficiency and enterprise, but the possibilities of loss and even disaster were numberless. He was glad to find the Institution in such a satisfactory condition. To secure, as the President had done, a list of subscriptions totalling something between £1,500 and £1,600 was an extraordinary performance. It was a gratifying thing to find so large a number of big associations—commercial, industrial and professional—making provision for those who fell by the way; it spoke volumes for our national character. Turning to the movement for the preservation of rural England, the speaker said it was high time that the law took cognisance of offences against the amenities of the countryside. He appealed to builders to help in the building up of a strong body of public opinion against the spoliation that was going on.

Mr. J. M. Theobald, F.S.I., responding for the Surveyors, congratulated the Institution on raising nearly £1,800 in times of unexampled difficulty and trade depression.

Mr. C. J. Bennett, F.I.O.B., proposed the toast of "The Visitors," which was responded to by Mr. Alexander Howard.

At this point it was announced that donations to the fund had been increased by £58 16s., making a total of £1,839 18s.

Mr. G. H. Parker, F.I.O.B., proposed the final toast, "The Vice-Presidents, Trustees, Committee, and Stewards," and Mr. John T. Bolding replied.

[Mr. Palmer-Jones, on behalf of Scaffolding (Great Britain), Ltd., offered to give £80 towards making the total of subscriptions a round sum of £2,000 if the remaining £80 could be obtained. Towards this sum Messrs. Theobald & Gardner subscribed £10 each. We understand that the offer of Messrs. Scaffolding remains open for a fortnight.]

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

Parliament reassembled for the Autumn Session on Tuesday, November 9.

Mr. Baldwin, the Prime Minister, stated that among the Bills the Government hoped to pass into law before Christmas were the Housing (Rural Workers) Bill and the Smoke Abatement Bill. The House of Commons would be asked to deal with a contribution under the Housing Act of 1924.

Weir Houses.

Sir J. Gilmour, Secretary for Scotland, informed Mr. Stephen that at the 31st ultimo, 198 Weir houses had been erected in Scotland with the aid of State funds, and 96 had been let, the annual rents being £27 10s. for three-apartment flats, £28 for three-apartment bungalows, and £34 for four-apartment cottages. The cost of erection could not yet be stated as the contracts were not completed.

Government Office Accommodation.

Commander Bellairs asked the Chancellor of the Exchequer if, with a view to preventing the growth of Government staffs, the Government would refuse to sanction any further large building schemes for Government accommodation.

Mr. Churchill said that the object desired would not necessarily be secured by the means suggested. Indeed, a large building scheme might, in certain circumstances, be more economical than a number of small schemes or new hirings of premises. Each case had to be carefully considered on its merits.

Builder's Estate.

Mr. John Davies, J.P., of Ebbw House, Abercarn, builder and contractor (net personalty, £26,139), left £26,826.

NEW BUILDINGS IN LONDON

Brixton.—THEATRE.—A scheme is afoot for the erection of a new theatre on a site near the top of Brixton Hill, S.W.2. The site has a frontage of 85 ft. and a depth of about 250 ft. There will be a stage 85 ft. by 55 ft., while the auditorium will seat 2,600. There will be two balconies. Mr. J. Owen Bond, 29, Castle Meadow, Norwich, has prepared the plans.

City-road.—EXTENSION.—The Management Committee of St. Mark's Hospital, City-road, E.C.1, are to erect a new wing to this hospital, at approximately £20,000. Mr. P. Morley Horder, of 5, Arlington-street, S.W.1, is the architect, and the builders are Messrs. Dove Bros., Cloudesley-place, N.1.

Deptford. — PREMISES. — New premises are being built on a site north of the railway bridge and on the east side of High-street, Deptford, upon which originally stood the Deptford Meeting House of the Society of Friends, built in 1692. The Meeting House was demolished in 1907. The part of the site at the rear, which was the old burial ground, is to be preserved and laid out as a small formal garden. The elevation which Mr. W. Allison, A.R.I.B.A., architect, of 22, Orchard-street, W.1, has designed for these modern business premises, which are being erected, is composed of grey faience, the material being treated logically and decoratively. The building owner is Mr. G. D. Edwards and the builders are Messrs. Thomas E. Wright & Son, of Southwark.

Hanwell.—ALTERATIONS.—Internal decorations and alterations are to be made to the Grand Theatre, Hanwell. The work has been approved by the Council. Mr. G. P. Pratt, 173, High-street, Acton, W.3, is the architect.

Jubilee-place.—HOUSES.—Three bijou Tudor period houses are in the course of erection in Jubilee-place, Chelsea. The builders are Messrs. Hammond & Barr, Ltd., 52, Beauchamp-place, Brompton-road, S.W.3.

Lambeth.—INSTITUTE.—The old brew-house adjoining Lambeth Palace is to be demolished, and a new parish institute for St. Mary's, Lambeth, is to be erected in its place. Mr. Henry M. Fletcher, architect, has prepared preliminary plans for this scheme. The work is estimated to cost £10,000. No contracts have been let for this work.

Leicester-place. — THEATRE. — Messrs. Frank Matcham & Co., architects, 9, Warwick-court, W.C.1, have submitted plans for the new buildings to be erected on the vacant sites in Leicester-place and Lisle-street, for the New Empire Theatre, Ltd. Messrs. F. D. Huntington, Ltd., have secured the contract for the work.

Leytonstone.—RECONSTRUCTION.—The Empire Kinemas are having the Rink Cinema reconstructed. The reconstruction work will include the erection of a large balcony. Mr. C. Masey, 19, Devereux-court, Temple, is the architect, and Messrs. Bovis, Ltd., have secured the building contract.

Ormonde-gate.—HOUSES.—On the Tudor style a house is now being built in Ormonde-gate, Chelsea, to the plans of Mr. A. C. Green, M.S.A., of 38, Beauchamp-place, S.W.3. Messrs. Hammond & Barr, Ltd., 52, Beauchamp-place, Brompton-road, S.W.3, are the builders.

Willow-street.—HOUSES.—The Westminster City Council has leased a site in Willow-street and Greencoat-place from the Ecclesiastical Commissioners for housing purposes. The scheme makes provision for 25 three-room flats, and 11 two-room and 5 four-room flats, each flat to contain a scullery, larder, water-closet and coal store. The architects, Messrs. Ashley & Newman, 14, Gray's Inn-square, W.C.1, have also made provision for a bath-house to be constructed on the ground floor entering off each of the entrance halls, containing three bathrooms in the centre block and two each in the other blocks, or seven bathrooms in all. Each bathroom is to be supplied with hot-water from a central boiler house, while in addition provision is made for a laundry for six washers, including a drying room and lavatory accommodation.

N.J.C. FOR THE BUILDING INDUSTRY

THE recent attention that has been given in the daily Press to the new constitution, rules and regulations of the National Joint Council for the Building Industry, warrants a recapitulation of facts as already given in this journal. The National Joint Council is a development of the National Wages and Conditions Council for the Building Industry, inaugurated in 1921, and connotes the unions of both employers and workers for the various building trades, with the exceptions on the employers' side of the master painters and plasterers, and on the workers' side of the bricklayers, masons and plasterers. It is hoped that these will not stand aloof from the settlement. National unity has thus been obtained, and the Council is able, while in as far as possible considering local conditions and former rules of practice, to deal with the following matters:—

(1) Rates of Wages and/or Grading.
(2) Working Hours.
(3) Extra Wages.
(4) Overtime.
(5) Night Gangs.
(6) Walking, Travelling and Lodging Allowances.

Matters in dispute must now be submitted to local employers' and trade unions' conferences. They will then be sent to a national joint conference for decision, and if the national conference fails to agree, the dispute—if both parties are willing—may be submitted to an arbitration board. If there is still no settlement following arbitration, a joint committee has to be set up to examine the position. A month is allowed for the committee to report progress, and if there is even then no agreement, either side may give a fortnight's notice to take drastic action.

Clause 15 of the Rules is important; it says that "Pending the completion of the procedure, no stoppage of work shall take place on any pretext whatever."

The agreement maintains present wages untouched until August 1, 1927, when the rates will vary in the various "grades" according to the cost of living index, a variation of 6½ points in the figure representing a variation either up or down of one half-penny an hour.

THE OLDEST THRONE IN EUROPE

IN last Wednesday's lecture at the Central School of Arts and Crafts, dealing with the early period of Greek architecture, Sir Banister Fletcher described the primitive walls of the oldest cities of Greece, called "Cyclopean," from the gigantic blocks of which they are composed. This early work, said the lecturer, contrasted strangely with the refined and delicate work of the temples erected centuries after, evolved from it by the constructive and artistic genius of the Greeks. The speaker described the citadel of "wall-girt" Tiryns, looking out over the sea; Mycenæ, another stronghold, with its "Gate of Lions"; and the walls of legendary Troy, Egypt, Babylonia and Greece, he continued, had in turn told us their story of ancient civilisations; but Crete kept her secret until Sir Arthur Evans, by his excavations at Knossos, revealed the site of Minoan civilisation and the birthplace of European architecture. The legends of the Minotaur and the labyrinth had been surprisingly objectified in these discoveries, and the plan of the palace was labyrinthine indeed. Views were shown of the Throne Room, with its stone chair of the great King Minos—the oldest throne in Europe—which still stood there to-day as it stood some 4,000 years before our era. The theatre and Hall of Double Axes, so called from the mysterious emblems inscribed on the piers, were also described, as were the long corridors of tall and graceful oil-jars, the magazines, the staircases, and other features. A grand staircase leads to the queen's suite, designed for comfort, air, and sanitation. There were no traces of fortification on the island, and we knew that the strength of Crete, as of Britain, was in her navy.

REMINISCENCES OF BUILDING

UNDER the heading "Memories—Early and Late," some interesting building trade reminiscences have been contributed recently to *The Journal of the Incorporated Clerks of Works Association*, by R. H. H., who, in his concluding article, writes as follows:—

"At the seaside resort where I had an extended experience of spiral staircase making, the work was all carried out in a hand shop. When trade was brisk, I have known as many as from thirty to forty of us working in the shop, but when slack times came, the number was substantially reduced. I have been kept at sticking sash bead by hand for a week, to say nothing of sinking English oak cills, 12 to 16 ft. long, by hand, week in and week out, awaiting expected work. I remember that in the shop we used to knock off from 10.50 to 11 a.m. in the bench walk for lunch, a thing of the past now. Since I left there many years ago it has become a fully-equipped machine shop.

"What a change in materials and methods has come about in a comparatively few years? All our floors were naked floors, joists were properly bridged with split timber, partitions properly trussed, as were roofs. All eaves to roofs were clear of walls; usually a pair of rafters at least were fixed on gable eaves to carry slates clear of the brick work. Evidently they had in mind the old West Country jingle—

'Give we a good boot and a good bonnet,
And I carry you through for ever.'

"All hearths were on brick-trimmed arches. Sashes, frames, doors, &c., were all hand-made with good, dry, seasoned timber; even the flooring used to be stacked end on to dry on the site months before the boards were cut down and laid. In the shop each man usually set out his own rods—I am speaking of hand shops—ripped and prepared his own stuff, and finished his job all on his own, even to sticking his own mouldings. He had no fancy tools, except perhaps a bull-nose and shoulder plane. Our planes were of wood, although the smoothing plane might have an iron shoe."

Lectures on Architecture for Workers in the Building Trades.

The Council of the R.I.B.A. will hold the third lecture of the series of informal illustrated lectures on architecture, confined to workers in the building trades, on Tuesday, November 16, when Mr. Howard Robertson, F.R.I.B.A., will lecture on "Good and Bad Buildings." The lecture will take place at 7.30 p.m., at the R.I.B.A., 9, Conduit-street, W.1. Admission is free, and all men employed in the work of building are cordially invited. Buffet refreshments will be served at 7.30 p.m. before the lecture.

The second of the series of these lectures was given on Thursday, November 4, when Mr. Maurice E. Webb, D.S.O., M.C., F.R.I.B.A., again presided, and Mr. Hubert Worthington, A.R.I.B.A., read a paper, illustrated by lantern slides, on "Materials and Craftsmanship." At the conclusion of the paper a discussion took place on the special points brought out. The lecture was well attended, and it is evident that the series is arousing great interest.

Housing Policy in Westminster.

The Westminster City Council has issued a statement of the reasons which have led to the rejection of the Pulford-street site. The principal reasons laid down in the document, which is signed by Mr. H. H. Bruce, Chairman of the Housing Committee, and by the Rev. E. St. G. Schomberg, the vice-chairman, are, in addition to the great cost of the property, the expense of preparing the site owing to unsound foundations, repairs needed for the open storm-water culvert on the N.E. side, and the problem of re-housing 350 of the present tenement holders. It is pointed out finally in explanation of the general housing activities of the City Council that it is committed to housing schemes in Esher-street and Willow-street, which will cost £100,000 and provide a total of 118 flats.

BOOK REVIEWS

Building Mechanics. By W. G. SHEPPARD, B.A. (Oxford University Press. London: Humphrey Milford.) 1926. Price 12s. net.

This work is an elementary exposition of the theory of structure suitable for students attending a junior class in building construction, and naturally only very simple demonstrations are given, and for the greater part statements are made the truth of which are demonstrated by simple experiments. It will be very helpful to students whose mathematics are weak and who are commencing to read the subject for the first time.

Practical Lessons in Carpentry and Joinery. By GEORGE ELLIS. (London: B. T. Batsford, Ltd.) 10s. 6d. net.

This is a well-produced book designed, as the author says in his preface, not to teach amateurs how to make wardrobes out of egg-boxes, but to inform carpenters and joiners upon the elements of their trades. Mr. Ellis rightly says that machine-work, although predominant, is neither carpentry nor joinery, and that hand-work is bound to come into its own again. This work is peculiarly suitable for a class book as it is profusely illustrated and the notes referring to these illustrations are placed on opposite pages for easy reference.

Strength of Materials. By ED. R. MAURER and MORTON O. WITHEY, Professors of Mechanics in the University of Wisconsin. (London: Chapman & Hall.) 1925. Price 17s. 6d. net.

This book has been written as a text-book for engineering students, particularly for the author's own students, hence it covers very generously the course laid down by the authorities of the university. We can recommend it as being a most useful addition to the engineers' library. The type and printing are excellent, many examples being interspersed throughout, by means of which the reader may readily test his knowledge.

Locks and Lock-making. By FRANCIS I. BULTER, and a Foreword by SIR GEORGE HAYTER CHUBB, Bart. (London: Sir Isaac Pitman & Sons, Ltd.) 1926. 3s. net.

This is a very interesting little work, containing an immense amount of interesting historical matter arranged so that the development of the lock is easily appreciated. The lock has naturally had to progress with the growth of the burglar's art, whose cleverness in picking or breaking open locks must be continuously countered. The key is also a most interesting part of the book, and is almost as important as the lock itself. The title includes "Lock-making," but this part of the subject is dealt with in a short chapter of only 11 pages under the sub-title "The Industry." The information given is, however, very scanty, and does not give much—if any—information that could be used by rival makers of locks and keys. This is a pity, for there must be a large amount of interesting matter (common property of all lock-makers) which must react upon the design of locks.

Arbitration Case.

Mr. Delissa Joseph held an arbitration on the 8th inst. at the R.I.B.A., with reference to light and air in connection with a proposed new building on the site of Nos. 37 & 38, Fenchurch-street, which, it was alleged, would interfere with light and air to windows in No. 6, Mincing-lane, the submission to the arbitrator being to settle the line within which the new building must be kept. Mr. E. B. Ellis, Mr. Stanley Hamp, and Sir Philip E. Pilditch, M.P., gave evidence on behalf of the plaintiffs; and Mr. Campbell Jones, Mr. Percy Waldram, and Mr. Owen Jones on behalf of the defendants. The arbitrator, after hearing the evidence, viewed the premises, and will issue his award in due course.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons	Brick-layers.	Car-penters Joiners	Plas-terers.	Slaters.	Plum-bers.	Pain-ters.	Lab-ourer
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alfreton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½	
Aylsham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/-½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chorley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam. (Men. Val)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/6	1/6	1/6	1/5	1/1½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1½
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 805.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

✱NOVEMBER 15. — **Barking.** — PAVING. —Paving with limestone, tar-paving the whole of the playgrounds (approximately 2,100 yards super), at the Park Central School, for the Barking Education Committee. C. J. Dawson, F.R.I.B.A., Authority's Architect, Clock House Chambers, Barking. Deposit £1 1s.

NOVEMBER 15.—**Birmingham.**—PAINTING.—Of the main corridors at Dudley-road Hospital, for the B.G. James Curtis, Clerk to the Guardians. Deposit £2 2s.

NOVEMBER 15.— **Blackpool.** — HOUSES. — Sixteen houses adjacent to Mather-street (off Talbot-road), for the C.B. F. Wood, Borough Engineer and Surveyor. Deposit £2 2s.

NOVEMBER 15. — **Bootle.** — PAINTING. — Cleaning, durescoing, and painting the interiors of the following schools during the Christmas holidays: (1) St. James's Select School, (2) part of the Boys' Secondary School, (3) part of the Junior Technical School, for the C.B. Borough Engineer.

NOVEMBER 15.—**Carlisle.**—PAINTING, &C.—At the Fusehill Institution, for the B.G. J. Gorton, clerk, 7, Victoria-place.

NOVEMBER 15.—**Elland.**—HOUSES.—Four houses at Thomas-street, Elland. Rhodes & Rhodes, architects, West Vale.

NOVEMBER 15. — **Evesham.** — ELECTRICAL INSTALLATIONS.—At the Public Hall and Town Hall, for the T.C. J. Abbott, Borough Surveyor.

NOVEMBER 15.—**Hull.**—TOWER.—Construction and maintenance of a ferro-concrete water tower in the parish of Mappleton and Rowiston, near Hornsea, for the T.C. C. B. Newton, Water and Gas Engineer. Deposit £1.

NOVEMBER 15.—**London.**—NEW WARDS, OPERATING THEATRE, &C.—Erection of new receiving wards, operating theatre, and other works at St. Luke's Hospital, Cale-street, S.W.3, for the Guardians of the Parish of Chelsea. Chas. W. Shepheard, Clerk to the Guardians, Guardians' Offices, 250, King's-road, S.W.3. Deposit £5.

NOVEMBER 15.—**Northallerton.**—OFFICES.—Erection of a registry of deeds office, for the North Riding C.C. H. G. Thornley, Clerk of the C.C., County Hall, Northallerton.

NOVEMBER 15.—**Plymouth.**—REPAIRS.—Repairs to premises situate at 12 and 13, Lambhay-street, for the C.B. R. J. Fittall, Town Clerk.

NOVEMBER 15.—**Sleaford.** — FENCING. — Supplying and fixing of 100 lin. yards of iron fencing, delivered Scopwick Station, for the R.D.C. N. D. Preston, Highways Surveyor, Council Offices, Northgate.

NOVEMBER 15.—**Sunderland.**— PAINTING. — Council schools and District Education Office: Seaham Harbour Upper Standard; Silksworth Council; New Seaham High Colliery; Ryhope Infants' (Cauldknuckles); Boldon Colliery Boys', Girls', and Infants'; Fulwell Infants'; Ryhope-street; New Seaham Low Colliery and District Education Office (internal only), for the Durham County E.C. T. G. Shaw, District Education Clerk, Baltic Chambers, John-street.

NOVEMBER 15.—**Truro.** — DECORATING. — Internal decoration of each of the blocks of houses, comprising 28 houses in all, on the Newham-road site, for the T.C. F. A. Barnes, City Surveyor.

NOVEMBER 16.—**Abersychan.**—CENTRE.—Mining centre, adjoining the Secondary School at Abersychan, for the Monmouthshire E.C. J. Bain, F.R.I.B.A., County Hall, Newport. Deposit £2 2s.

NOVEMBER 16.—**Birmingham.**—PAINTING.—Painting of the main corridors at Dudley-road Hospital, for the B.G. J. Curtis, Clerk, Union Offices. Deposit £2 2s.

NOVEMBER 16.—**Glasgow.**—HOUSES.—Houses at Govanhill and Shettleston housing sites, for the T.C. J. Lindsay, Town Clerk.

NOVEMBER 16.—**Gosforth.**—HOUSES.—Five dwelling-houses in flats in Santon-street, for the U.D.C. G. Nelson, Engineer and Surveyor.

NOVEMBER 16.—**Newton Abbot.**—HOUSES.—Twenty-eight houses at Bovey Tracey, also the construction of a short length of road on the site and the extension of the sewer and water mains, for the R.D.C. B. H. Palmer, L.R.I.B.A., Union-street, Newton Abbot.

NOVEMBER 16.—**Southport.**—EMPLOYMENT EXCHANGE.—Erection of, at Southport, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 16.—**Strood (Kent).**—PAINTING.—The whole of the exterior metal and wood work of Strood Church, for the Church Council. A. D. Littlewood, Hon. Secretary, Church Council, "Hillside," Hillside-avenue.

NOVEMBER 16.—**Wheldrake.** — HOUSE. — Teacher's house at Wheldrake, for the East Riding E.C. County Architect, Beverley.

NOVEMBER 17.—**Appleby.**—PREMISES.—For (1) new science wing, containing laboratory, preparation room, cloak room, &c., and (2) new cloak room and changing room, at the Grammar School, for the Governors. A. Knewstubb, architect, St. Andrew's Chambers, Penrith. Deposit £1.

NOVEMBER 17.—**Dublin.**—HEATING.—Installation of a hot-water heating system at Griffith Barracks, for the Commissioners of Public Works. J. J. Healy, secretary, Office of Public Works, Baile Atha Cliath. Deposit £1.

NOVEMBER 17.—**Leeds.**—LIGHTING.—Installation of electric light at Block 4, St. James' Hospital, Beckett-street, for the B.G. J. H. Ford, clerk, Poor Law Offices, South Parade.

NOVEMBER 17.—**Liverpool.**—DWELLINGS.—Eighteen tenement dwellings on the Pitt-street area, for the T.C. Acting-Director of Housing, Municipal Buildings, Dale-street. Deposit £1 1s.

NOVEMBER 17.—**Liverpool.**—RECONSTRUCTING.—The roof of the south catacombs at the cemetery in Anfield-Park, for the T.C. City Engineer, Municipal Buildings, Dale-street.

NOVEMBER 17.—**Newcastle-upon-Tyne.**—SCHOOL.—Large elementary school (1,550 scholars) on the Pendower estate, for the E.C. Thos. Walling, Director of Education, Northumberland-road. Deposit £5.

NOVEMBER 17.—**Stockton-on-Tees.**—EMPLOYMENT EXCHANGE.—Erection of, at Stockton-on-Tees, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 18.—**Dublin.**—WIRING.—Electric wiring of 59 houses, Fairbrothers Fields, for the C.B. J. J. Murphy, Town Clerk. Deposit £1 1s.

NOVEMBER 18.—**Glamorgan.**—IMPROVEMENTS.—For (1) Gwaunarlwyddes Uchaf Farm, Gelligaer, alterations and additions; (2) Nantymoel Girls' Council school, new latrines, new coal-house, and work on boundary walls, playground, and forecourt; (3) Gorseinon Council school, levelling playground of boys' department; (4) Bridgend County Library, providing and fixing new partition, lift, &c., at library, for the C.C. T. M. Franklen, Secretary of E.C., Glamorgan County Hall, Cardiff.

NOVEMBER 18. — **Hampton.** — TELEPHONE EXCHANGE.—Erection of Molesey Telephone Exchange, Hampton, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 18.—**Kingston-upon-Hull.**—EXTENSIONS.—Building extensions, involving reinforced concrete, brick, and other work, for the T.C. H. Bell, City Electrical Engineer and Manager, Electricity Works, Sculcoates, Hull. Deposit £1 1s.

NOVEMBER 18.—**Leeds.**—PAINTING.—At Gateforth Sanatorium, Hambleton, for the Corporation. W. T. Lancashire, City Engineer.

NOVEMBER 18.—**Limerick.**—HOUSES.—Fifty houses, for the Irish Sailors' and Soldiers' Land Trust. R. E. Beckerson, Chief Clerk, Irish Sailors' and Soldiers' Land Trust, 30, Lower Fitzwilliam-street, Dublin. Deposit £5 5s.

NOVEMBER 19.—**Blackhill.**—PAINTING.—Painting and colouring the following Council schools: Leadgate, Iveston, Westwood, and Blackhill Handicraft Centre, for the Durham County E.C. J. R. W. Sherwood, District Clerk, Education Office, Blackhill.

NOVEMBER 19.—**Finchley.**—FENCING.—Erection and fixing of approximately 300 yards run of wrot iron fencing, together with gates, and incidental works, at Brook Farm, Great North-road, Whetstone, and Cherry Tree Wood, East Finchley, for the U.D.C. P. T. Harrison, Engineer and Surveyor, 9, The Hawthorns, Regent's Park-road, Finchley, N.3. Dep. £1.

NOVEMBER 19.—**Ireland.**—ENLARGING.—For (1) Turlough National School, Ballyvary, co. Mayo, and (2) Breaffy National School, Castlebar, co. Mayo, for the Commissioners of Public Works. J. J. Healy, Secretary, Office of Public Works, Baile Atha Cliath, Dublin. Deposit £1 each.

NOVEMBER 19.—**Leyton.**—LIGHTING.—Installation of electric light and a central heating system at the Knotts Green Special School now in course of erection, for the U.D.C. J. H. Jacques, L.R.I.B.A., 61, West Hamlane, Stratford, E.15. Deposit £1 each.

NOVEMBER 19.—**Nelson.**—CHIMNEY.—Pulling down of a disused chimney at the sewage works, for the Corporation. Borough Surveyor.

NOVEMBER 19. — **Southend-on-Sea.** — MAIN TELEPHONE EXCHANGE.—Erection of, at Southend-on-Sea, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 19. — **Sutton, Surrey.** — TELEPHONE EXCHANGE.—Erection and completion of, at Sutton, Surrey, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 20. — **Bradford.** — HOUSES. — Housing scheme No. 1, Odsal, eight houses; housing scheme No. 4, Scholemoor, 48 houses, for the T.C. City Architect.

NOVEMBER 20.—**Edinburgh.**—BUILDING.—Workshop building in Bellevue Technical and Commercial School, for the E.C. J. A. Carfrae, architect, 3, Queen-street.

✱NOVEMBER 20. — **London.**— ALTERATIONS.—Subdivision of a room on the west side of the basement of the new block at St. Leonard's Hospital, Hoxton-street, N.1, for the Guardians of the Poor of St. Leonard, Shoreditch. Guardians' Architect, F. Danby Smith, F.R.I.B.A., Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £2 in Treasury notes.

NOVEMBER 20.—**Pontefract.**—HOUSES.—106 houses on the Baghill housing site, for the T.C. W. H. Newton, Borough Engineer. Deposit £5.

NOVEMBER 20.—**Reading.**—HOUSES.—Erection of 137 on the Oxford-road Housing Site, for the Housing and Town-Planning Committee of the County Borough Council. Housing Architect, Municipal Buildings, St. Laurence's Churchyard, Reading.

NOVEMBER 20.—**Rothwell.**—HOUSES.—100 scullery houses on the following sites: Rothwell Haigh site, 52 houses; Carlton site, 26 houses; Thorpe site, 12 houses; Lofthouse site, 10 houses, for the U.D.C. J. Southwart, surveyor. Deposit £1 1s.

NOVEMBER 20.—**Wokingham.**—HOUSES.—Thirteen pairs of semi-detached non-parlour houses on sites in the following parishes, viz., Swallowfield, Twyford, Hurst, Shinfield, Sonning, Remenham, and Wokingham-Without, for the R.D.C. C. Aldridge, housing surveyor, Loddon Bridge Lodge, Earley, near Reading.

NOVEMBER 22. — **Aldershot.** — EMPLOYMENT EXCHANGE.—Erection and completion of at Aldershot, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

✱NOVEMBER 22.—**Plymouth.**—BUILDINGS.—Erection of three blocks of buildings, containing 36 flats in all, at Mount Stone, Cremyll-street, Stonehouse, for the County Borough Council. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

NOVEMBER 22. — **Southend-on-Sea.** — EXTENSIONS. —Erection and completion of extensions to the refuse destructor, and works incidental thereto, at the Sewage Disposal works, Prittlewell, for the Corporation. Robert H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

NOVEMBER 22.—**Windsor.**—ADDITIONS.—Alterations and additions to the cottage at Blacknest, Sunninghill, for the R.D.C. W. Menzies, architect, Englefield Green, Staines. Deposit £1 1s.

NOVEMBER 23. — **Chorley Wood.** — TELEPHONE EXCHANGE.—Erection at Chorley Wood, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 23.—**Edinburgh.**—CONCRETING.—Reinforced concrete work of basement and foundations of turbine house at the Electric Generating Station, Portobello, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

NOVEMBER 23.—**Leeds.**—HOUSES.—160 houses on the Wyther House housing estate, for the T.C. W. T. Lancashire, City Engineer.

NOVEMBER 23.—**South Dublin.**—COTTAGES.—Forty-two labourers' cottages, for the R.D.C. G. Gallagher, Clerk of the Council, 1, James's-street, Dublin.

NOVEMBER 23.—**West Bromwich.**—ALTERATIONS.—Alterations, decorations and repairs at the institution in Hallam-street, for the B.G. J. P. Osborne & Son, architects, 95, Colmore-row, Birmingham.

NOVEMBER 24.—**Bramshill (Hants).**—COTTAGES.—100 cottages in pairs at the following sites, for the Hartley Wintney R.D.C.: Parishes of Bramshill, Crondall, Mattingley, Rotherwick, South Warnborough, Crookham, Eversley, Hartley Wintney, Odiham, and Yateley. Clerk, Council Offices, Hartley Wintney. Deposit £1.

NOVEMBER 24.—**Chester.**—CENTRE.—At Ardene Institute, Tarporley, for the E.C. F. A. Browne, F.R.I.B.A., County Architect, Newgate-street, Chester. Deposit £1 1s.

NOVEMBER 24.—**Chippenham.**—LAVATORY.—Public lavatory on the Town Bridge, for the T.C. Borough Surveyor.

NOVEMBER 24. — **Edmonton.** — HOSPITAL ALTERATIONS.—Carrying out of certain alterations to the Maternity Wards at the North Middlesex Hospital, for the Guardians of the Edmonton Union. J. C. S. Mummery, A.R.I.B.A., 34, Bloomsbury-square, W.C.1.

NOVEMBER 24.—**London.**—ELECTRICITY SUBSTATION.—Erection of, at Stamford Hill, Hackney, for Council of the Metropolitan Borough of Hackney. Borough Electrical Engineer, 18–24, Lower Clapton-road, E.5. Deposit £2 2s.

NOVEMBER 24.—**St. Albans.**—COTTAGES.—Forty-four cottages at the Camp housing site, for the T.C. F. T. Negus, City Engineer and Surveyor, 96, Victoria-street. Deposit £1 1s.

NOVEMBER 25. — **Cork.** — HOUSES. — Twenty-four houses between Ballinlough and Boreenamanagh-roads, Cork, for the Irish Sailors and Soldiers Land Trust. Engineer, 30, Lower Fitzwilliam-street, Dublin. Deposit £2 2s.

✱NOVEMBER 25. — **Denbigh.** — TELEPHONE EXCHANGE.—Erection of, at Old Colwyn, Denbigh, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 25.—**Hornsey.**—COTTAGES.—Thirty-two cottages, together with drainage and fencing, at the Rectory Gardens housing site, for the T.C. W. H. Adams, Deputy Borough Engineer and Surveyor, Town Hall, Highgate, N.6. Deposit £2.

NOVEMBER 25. — **Manchester.** — HOUSES.— Erection of four houses and upwards on the Kingsway and Gorton estates (the number to which the tender applies to be set out on the form of tender), for the Housing Committee of the City of Manchester. Housing Director, Town Hall. Deposit £2 2s. to the City Treasurer.

NOVEMBER 25.—**Stourbridge.**—HOUSES.—104 non-parlour, three-bedroom houses, on the Grange estate, for the T.C. F. Woodward, Borough Surveyor and Architect. Deposit £2 2s.

✱NOVEMBER 26.—**Northampton.**—HOUSES.—Erection of brick construction, or constructions of concrete, or alternatively 195 houses of cast-iron or steel, on the Gipsy-lane housing site, for the Housing and Town-Planning Committee of the County Borough of Northampton. Alfred Fidler, M.Inst.C.E., Borough Engineer, Guildhall, Northampton. Deposit £5 (crossed cheques made payable to Northampton Corporation).

✱NOVEMBER 26.—**Reading.**—POST OFFICE ENGINEERING GARAGE.—Erection and completion at Caversham, Reading, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 26.—**Southampton.**—FENCES.—Renewal of fences and paving at the Cattle Market, for the C.B. Borough Engineer, 33-35, French-street. Deposit £2 2s.

✱NOVEMBER 26.—**Worthing.**—HOUSES.—Alternative tenders for the erection in brickwork of 37 parlour and 51 non-parlour type houses in pairs, and blocks of three, four and five, on a site bounded by Hamroad and Ladydell-road, for the Corporation. P. E. Harvey, Borough Surveyor and Architect, Municipal Offices, Tudor Lodge, Worthing. Deposit £2 2s.

NOVEMBER 27.—**Formby.**—OFFICES.—New Council offices, for the U.D.C. The Architect. Deposit £2 2s.

NOVEMBER 27.—**Stockton-on-Tees.**—COTTAGES.—Erection and completion of 33 pairs of "A" type cottages, nine pairs of "B" type cottages, and 17 blocks of flats, upon the Mount Pleasant housing estate, Norton road, Stockton-on-Tees, for the Corporation Borough Engineer, Victoria-buildings, Stockton-on-Tees; or the Architects, Lanchester, Lucas & Lodge, 19, Bedford-square, London, W.C.1. Deposit £2 2s.

NOVEMBER 27.—**Swaffham.**—HOUSES.—Four houses at Gooderstone, for the R.D.C. I. Shingles, Clerk.

NOVEMBER 29.—**Guildford.**—HOUSES.—Six non-parlour type cottages in three pairs at Clasford, Worplesdon, for the R.D.C. J. W. Wilton, architect and surveyor, Market Chambers, Onslow-street. Deposit £2 2s.

✱NOVEMBER 29.—**Oxford.**—AUTOMATIC TELEPHONE EXCHANGE.—Erection and completion of, at Headington, Oxford, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1 Deposit £1 1s. (cheques payable to the Commissioners).

✱NOVEMBER 30.—**London.**—INTERNAL PAINTING AND CLEANING.—At General Post Office, South, Queen Victoria-street, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

DECEMBER 1.—**Sheffield.**—SCHOOL.—Erection of Prince Edward Council School, on the Manor Estate, Intake, for the T.C. W. G. Davies, A.R.I.B.A., City Architect. Deposit £2.

✱DECEMBER 2.—**Lambeth.**—OVERGROUND URINAL.—Construction of, in Webber-street, New Cut, S.E.1, for the Lambeth Borough Council. Osmond Cattlin, M.Inst.C.E., Borough Engineer, Lambeth Town Hall, Brixton Hill, S.W.2.

✱DECEMBER 3.—**Acton.**—HOSPITAL WARD.—New additional ward at the Isolation Hospital, Acton, for the Borough Council. Borough Engineer, Municipal Offices, Winchester-street, Acton, W.3. Deposit £1 1s.

DECEMBER 6.—**Chelmsford.**—SCHOOL.—Erection and completion of a new elementary school, together with all outbuildings, fencing, playgrounds and caretaker's house, on the Boarded Barns Estate, Chelmsford, for the Town Council. Ernest J. Miles, Assoc. M.Inst.C.E., Borough Engineer, Municipal Offices, Rainsford House, Chelmsford. Deposit £2 2s.

DECEMBER 6.—**Scotland.**—MAINTENANCE WORK.—Execution of maintenance works as follows: Edinburgh, Glasgow, Stirling, Aberdeen, Dundee—Carpenter and joiner and ironmonger; excavator, mason, and bricklayer; glazier; painter, paperhanger, and gilder; slater; plasterer; plumber; ironfounder and smith (not for Stirling). Paisley, Greenock, Perth, and Inverness—Carpenter and joiner and ironmonger; plumber, for H.M.O.W. Contracts Branch, H.M. Office of Works, Storey's Gate, S.W.1.

DECEMBER 7.—**Bri Chualann.**—CONVENIENCES.—Public lavatories, &c., on site between Municipal Baths and Strand-road, for the U.D.C. E. M. Murphy, Surveyor. Deposit £1 1s.

✱DECEMBER 9.—**Belfast.**—PLASTER WORK.—Excavation of plaster work at the new Museum and Art Gallery, Botanic Gardens Park, Belfast, for the Libraries, Museums and Art Committees of the County Borough of Belfast. R. B. Roe & Sons, quantity surveyors, Kingscourt, 17, Wellington-place, Belfast. Deposit £2 2s.

DECEMBER 9.—**Compton Bishop.**—HOSPITAL.—Isolation hospital at Compton Bishop, near Axbridge, Somerset, comprising administration, scarlet fever, diphtheria, observation, laundry, and disinfecting blocks, together with roads, drains, fences, &c., for the Axbridge, Burnham, and Highbridge Joint Isolation Hospital Committee. A. J. Pictor, F.R.I.B.A., 14, Queen-square, Bath. Deposit £2 2s.

✱DECEMBER 10.—**London.**—ALTERATIONS.—Alterations to the premises 587-591, Fulham-road, Fulham, for the Fulham B.C. H. M. de Colleville, A.R.I.B.A., architect, 48, Bedford-row, W.C.1. Deposit £3 3s.

✱NO DATE.—**Cosham, Hampshire.**—STRUCTURAL ALTERATIONS.—Structural alterations at the premises, 34-36, High-street, Cosham, Hampshire, for Messrs. Timothy White Co., Ltd. Construction Dept., 30, Chandos-street, Portsmouth.

NO DATE.—**Flint.**—HOUSES.—Thirty-six houses, for the T.C. W. B. Edwards, A.R.I.B.A., architect, 84, Church-street. Deposit £3 3s.

MATERIALS, etc.

NOVEMBER 15.—**Cairo.**—SEWERS.—Supply, construction and delivery in perfect working order and condition of main and branch sewers, for the Commercial Secretary of Cairo. Department of Overseas Trade (Room 50), (Ref. A.X.3719).

NOVEMBER 15.—**West Hartlepool.**—MATERIALS.—Footpath and road materials, tarred slag, pitch and spraying compounds, sewer pipes, metal castings, Portland cement, disinfectants, for the C.B. F. Durkin, Borough Engineer.

NOVEMBER 17.—**Norfolk.**—MATERIALS.—Tar and bituminous materials, tarred slag macadam, dry slag, granite, rock, granite or slag rejections, gravel and flints, binding silt, clean sand for surface tarring, &c., for the C.C. S. H. Warren, County Surveyor, Queen-street Chambers, 9, Queen-street, Norwich.

NOVEMBER 18.—**London.**—GIRDERS.—255 tons of steel girders and other iron and steel work, for the G.W.R. F. R. E. Davis, Secretary, Paddington Station, W.2. Deposit £2 2s.

NOVEMBER 18.—**Ripon.**—FENCING.—Creosoted fencing and gates, &c., for the T.C. P. Hewson Molyneux, City Engineer.

NOVEMBER 19.—**Cardiff.**—MATERIALS.—Building materials, building ironmongery, oils, paints and glass, for the B.G. R. Stephenson, Clerk, Union Offices, 11, Park-place.

NOVEMBER 23.—**Liverpool.**—MATERIALS.—20,000 super yds. concrete slabs, 2½ in. thick, 2 ft. gauge, in sizes of 3 ft., 2 ft. 6 in., and 2 ft., for the T.C. City Engineer.

DECEMBER 6.—**Chatham.**—PIPES.—595 tons of cast-iron pipes and specials, for the T.C. W. H. Radford & Son, chartered civil engineers, Albion Chambers, King-street, Nottingham. Deposit £3 3s.

DECEMBER 9.—**Dublin.**—MATERIALS.—Bricks, castings, cement, glass, iron bars, lead, sheet, pipes, &c., oil, stoneware, pipes, and varnishes, for the Great Southern Railway Co. C. E. Riley, Secretary, Kingsbridge Terminus, Dublin.

JANUARY 10, 1927.—**Melbourne.**—STEEL PIPE-LINE.—For approximately 700 tons of 30 in. to 51 in. steel pipe-line with accessories, for the State Electricity Commissioners of Victoria. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

ENGINEERING, IRON AND STEEL.

NOVEMBER 17.—**Sutton (Surrey).**—DRAINAGE.—Providing and laying sewers from 6 in. to 12 in. in diameter for approximately 6,900 yards, together with manholes, ejectors, and air compressing plant, air mains, rising mains, and construction of detritus chambers, settling tanks, percolating filters, humus tanks and sludge beds, for the U.D.C. Wm. Hedley Grieves, surveyor, Deposit £5 5s.

NOVEMBER 19.—**Totnes.**—RESERVOIR.—Reservoir, to contain about 45,000 gallons, and built in concrete and brickwork; also about 330 yards of 4 in., 3 in., and 2 in. cast-iron main, at Bittaford, in the parish of Ugborough, for the R.D.C. R. Hansford Worth, M.Inst.C.E., 42, George-street, Plymouth.

NOVEMBER 22.—**Manchester.**—STEELWORK.—Steelwork, &c., in extension to existing station, in turbine house, boiler house, switch house, and subsidiary works, at the Barton Power Station, for the T.C. H. C. Lamb, Chief Engineer and Manager, Electricity Department. Deposit £2 2s.

NOVEMBER 27.—**Torksey.**—BRIDGE.—Reinforced concrete bridge over the Fossdyke Navigation Canal at Torksey, between Lincoln and Gainsborough, for the Lindsey C.C. A. G. Bradshaw, County Surveyor, Newland House, Lincoln. Deposit £3 3s.

NOVEMBER 30.—**London.**—BRIDGE.—Girder bridges and flange plates, for the Madras and Southern Mahratta Railway. Secretary, 25, Buckingham Palace-road, S.W. 1. Charge £1 1s.

NOVEMBER 30.—**Portobello.**—WALL.—Reconstruction of the existing outfall at Portobello, together with sea wall and other incidental works, for the Brighton Intercepting and Outfall Sewers Board. D. Edwards, Engineer, Town Hall, Brighton. Deposit £10 10s.

DECEMBER 1.—**Denmark.**—BRIDGE.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

DECEMBER 2.—**Johannesburg.**—BRIDGES.—For (1) bridge at 14 m. 33 chs. Imvani, St. Marks Line; (2) Boksburg East footbridge; and (3) Longmarket-street, Maritzburg, footbridge, for the South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

DECEMBER 3.—**London.**—STEELWORK.—Steelwork for bridges, for the South Indian Railway Co. Robert White & Partners, Consulting Engineers to the Company, 3, Victoria-street, S.W.1. Charge 10s.

DECEMBER 9.—**Cairo.**—RESERVOIR.—At the town of Minia El Khamh, for the Minister of the Interior, Municipalities and Local Commission Sections. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

ROAD, SEWERAGE, AND WATER WORKS.

NOVEMBER 15.—**Truro.**—KERBING.—Kerbing, channelling and completing the roads at the Newham-road housing site, for the T.C. F. A. Barnes, City Surveyor.

NOVEMBER 15.—**Whitstable.**—MAIN.—Excavating trenches, &c., and supplying and laying about 5,900 yards of 12 in. internal diameter water main of cast-iron, and, alternately, steel tubes, together with other contingent works, for the U.D.C. J. Dunn, Surveyor and Water Engineer. Deposit £2 2s.

NOVEMBER 16.—**Berks.**—REDRAINAGE WORK.—At Broadmoor Asylum, Berks, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 16.—**Shillington.**—MAINS.—Laying water mains, &c., near Henlow Station, for the Ampthill R.D.C. L. Foster, surveyor, Flitwick, Bedford.

NOVEMBER 16.—**Watford.**—EXTENSIONS.—Of sewers in Belswains-lane, Abbot's Langley, for the R.D.C. Surveyor, 9, Market-street. Deposit £1 1s.

NOVEMBER 17.—**Luton.**—MAKING-UP.—The carriage-way, flagging footways and laying storm-water sewers in Stratford-road, for the T.C. J. W. Tomlinson, Borough Engineer, 18, Upper George-street.

NOVEMBER 17.—**Wallasey.**—RECONSTRUCTION.—Reconstruction of Liscard-road, from Martin's-lane to Mainwaring-road, for the C.B. Borough Engineer and Surveyor.

NOVEMBER 18.—**Kingston-upon-Thames.**—SEWERS.—Construction of road and sewers on the housing site, for the T.C. Borough Surveyor. Deposit £1 1s.

NOVEMBER 19.—**Leeds.**—MAKING-UP.—For (1) Road-making at the mental wards, St. James' Hospital, Beckett-street, Leeds, and (2) concreting for foundation for a summer house, Bramley institution, for the B.G. J. H. Ford, clerk, Poor Law Offices, South-parade.

NOVEMBER 19.—**Romney Marsh Level.**—SEWER.—New sewer from Wenham's-lane to Five Vents, about 400 rods; marsh land from sluice to site of Orgarswick Church, about 440 rods. D. H. Morton, Expenditor, New Hall, Dymchurch.

NOVEMBER 19.—**West Derby.**—ROAD.—Roadwork, garden paths, and retaining walls, Cleaver Sanatorium, Heswall, for the B.G. E. B. Bailey, L.R.I.B.A., 9, Cook-street, Liverpool.

NOVEMBER 22.—**Broadstairs and St. Peter's.**—KERBING.—2,000 ft. of 6 in. by 12 in. granite kerbing, to be delivered to Broadstairs Railway Station or to various roads and depots in the district, for the U.D.C. H. Hurd, surveyor.

NOVEMBER 22.—**Hursley.**—SEWERAGE.—Connecting 44 Council houses at Fryern-hill, Chandler's Ford, to the main sewer. Weston, Burnett & Thorne, engineers, 24, Portland-street, Southampton.

NOVEMBER 22.—**Sutton (Lancs).**—KERBING.—Kerbing, flagging, tar-macadamising, and completing a number of streets at Sutton Manor, St. Helens, for the Sutton Manor Collieries. Wm. J. Part, Secretary, Haydock Offices, near St. Helens. Deposit £2 2s.

NOVEMBER 23.—**Mitcham.**—EXTENSION.—Extension of soil and surface water sewers at Manor-road, approximate length 650 yards, for the U.D.C. Surveyor, Broadway House, London-road, Lower Mitcham.

NOVEMBER 30.—**Bucks.**—ROADS.—Road reconstruction works on a section of the London-Oxford road, approximately 3½ miles in length; also a short by-pass at Gerrards Cross Common Cross-roads, for the C.C. E. Winfield, County Surveyor, Lloyds Bank Chambers, Aylesbury. Deposit £10.

DECEMBER 1.—**Cairo.**—PIPES.—Pipes and fittings required in connection with the water supply of Minieh, for the Minister of the Interior, Municipalities and Local Commissions. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

DECEMBER 6.—**Chatham.**—SEWERS.—Construction of sewers as follows: 380 yds. 1in. 36 in. diameter iron pipe sewers; 340 yds. 30 in.; 200 yds. 24 in.; 125 yds. 21 in.; 430 yds. 18 in.; 130 yds. 9 in.; 150 yds. 7 in.; 100 yds. 27 in. diameter stoneware sewer; 280 yds. 24 in.; 360 yds. 21 in.; 800 yds. 18 in.; 635 yds. 15 in.; 2,520 yds. 12 in.; 3,400 yds. 9 in.; 11,800 yds. 7 in., for the T.C. W. H. Radford & Son, chartered civil engineers, Albion Chambers, King-street, Nottingham. Deposit £5 5s.

Auction Sales, Tenders, etc.

NOVEMBER 16.—**London.**—Henry Butcher, Hall & Co. will sell, by order of the Joint Liquidators, Mr. F. S. Jackson, F.C.A., and Mr. E. J. Webber, on the premises, High-street, Wimbledon, S.W.19, the plant, machinery and stock of Messrs. T. Holloway, Ltd., builders, decorators, and electricians. Auctioneers, 63 and 64, Chancery-lane, W.C.2.

NOVEMBER 16, 17 AND 18.—**Suffolk.**—Perry & Phillips (Bridgenorth), in conjunction with Woodward & Woodward (Stowmarket), will sell, at Bury St. Edmunds, 2 miles from the town, at Hardwick House, the whole of the interior and exterior fixtures and fittings in and about the property, previous to the demolition of the mansion, rare garden ornaments, 11 excellent greenhouses. After the sale of the fixtures and fittings, the fabric of the mansion will be sold for demolition. Auctioneers, 59, High-street, Bridgnorth, and Station-road, Stowmarket.

✱NOVEMBER 17.—**Croydon.**—Veryard & Yates will sell, without reserve, to clear site for road widening at 43 to 47, South End, Croydon, building materials, fixtures and fittings (arising from demolition of the premises). Auctioneers, 365, Norwood-road, S.E.27.

✱NOVEMBER 18.—**London.**—Veryard & Yates will sell, without reserve, to clear site for new buildings, 28 to 38, Enfield-road, Kingsland-road, N. (in rear of Metropolitan Hospital), building materials (from demolition of the residences). Auctioneers, 365, Norwood-road, S.E.27.

✱NOVEMBER 28.—**London.**—W. W. Howard Bros. & Co., in conjunction with Joseph Hibbard & Sons, will sell, at the Small Hall, Winchester House, Old Broad-street, E.C.2, stock of India and Burma hardwoods of various kinds laying at Crown Wharf, Canning Town, London, E., and at Tower Wharf, Southampton. Auctioneers, 15, Newington-green, Islington, London, N.16.

✱DECEMBER 7.—**Essex.**—Weatherall & Green will sell, at the London Auction Mart, 155, Queen Victoria-street, E.C., a freehold market and eight main road shops, also available for any commercial purpose, garage, cinema, dance hall, also freehold shops, Nos. 2A, 4, 6, and 10, Goodmayes-road, 5, Orchard-gardens, and 1, Westwood-parade, and freehold ground rents, freehold building land in Pembroke-road. Auctioneers, 22, Chancery-lane, W.C.2.

Competitions.

(*See Competition News page* 768.)

Public Appointments.

NOVEMBER 15.—**Lytham Saint Annes.**—Temporary Assistants required in the Borough Engineer's Department by the Corporation. T. Bradley, Town Clerk, Town Hall, Lytham Saint Annes, endorsed "Temporary Assistant."

NOVEMBER 18.—**Essex.**—Architectural Assistant on the Temporary Staff by the Essex County Council, with experience in the design and equipment of Mental Hospitals essential. Jno. Stuart, F.R.I.B.A., County Architect, Springfield Old Court, Chelmsford.

★NOVEMBER 19.—**Finchley.**—Outdoor Assistant and Chief Building Inspector required by the Finchley U.D.C. Percival T. Harrison, M.Inst.C.E., No. 9, The Hawthorns, Regent's Park-road, Finchley, N.3.

★NOVEMBER 20—**Devon.**—Assistant required to deal with repairs of County buildings, adjust building accounts, and prepare specifications, by the Devon County Council. County Architect, 97, Heavitree-road, Exeter.

NOVEMBER 20.—**Portsmouth.**—One permanent Engineering Assistant to the City Engineer required by the Portsmouth City Council. F. J. Sparks, Town Clerk, Guildhall, Portsmouth.

★NOVEMBER 20.—**Winchester.**—Qualified Clerk of Works to assist with the supervision of building works in connection with schools, county buildings and small holdings required in the County Architect's Department by the County Borough Council of Southampton. A. L. Roberts, County Architect, The Castle, Winchester.

★NO DATE.—**Kenya.**—Building Foreman required by the Government of Kenya, for the Public Works Department, for a tour of 20 to 30 months' service in the first instance. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/14792.

INSTITUTION OF SANITARY ENGINEERS

Annual Dinner.

THE annual dinner of the Institution of Sanitary Engineers was held on November 3, at the Holborn Restaurant, the President, Mr. Edward Willis, M.Inst.C.E., M.I.Mech.E., being in the chair. Amongst those present were Mr. Arthur J. Martin, Past-President of the Institution; Mr. E. A. Sandford Fawcett, of the Ministry of Health; Mr. G. Jenkins, J.P., Chairman of the Chiswick Urban District Council; Dr. G. S. Coleman, the President-Elect; Mr. A. Dryland, Vice-President, Institution of Municipal and County Engineers; Mr. W. R. Davidge, F.R.I.B.A., President of the Town-Planning Institute; Mr. G. L. Pepler, Dr. H. G. Calvert, Mr. Charles Mason, and Mrs. R. C. N. Newport.

Dr. G. S. Coleman, proposing the toast of "Our Public Health Authorities," said that these aimed at making the general public health better through lectures on food, water, sewage and the like. They had now a Ministry behind them, the Ministry of Health, which was as well, for people in the main were extraordinarily indifferent to matters of public health.

Mr. W. R. Davidge replied.

Mr. G. L. Pepler proposed the health of the Institution, coupled with that of Mr. Edward Willis.

Mr. Edward Willis, the President, in returning thanks, gave a short account of the history of the Institution, which, he said, was founded about thirty years ago, but went through various vicissitudes until about ten years back, when, chiefly due to the efforts of Mr. Arthur Martin and others, it was put on a better base. They had 800 members in all parts of the world, who had done a great deal of useful work in their time. He had been informed that drainage should be the sanitary engineer's main idea. He begged to differ. Sanitary engineers should take a wider outlook, and constructive and civil engineering and building and municipal engineering as connected with sanitation should be in their field of view, together with a broad outlook on town planning. Many thousands of pounds would have been saved for the municipal authorities had this outlook generally obtained. The President concluded with an expression of thanks to the Secretary, Mr. P. N. Hasluck, and to the members generally for their loyal and unswerving support during his tenure of office.

The Royal Metal Trades' Pension and Benevolent Society.

The seventy-eighth anniversary festival of this Society was held at the Guildhall, London, on Tuesday, November 2, under the chairmanship of Colonel the Right Hon. Sir William Robert Pryke, Bart., Lord Mayor. His Royal Highness the Prince of Wales was present, and there were 700 guests. H.R.H. proposed the toast of the evening "Increased Prosperity to the Royal Metal Trades Pension and Benevolent Society"; and Mr. A. K. Steven, Chairman of the Board of Management, responded. The collection in aid of the Society's funds amounted to about £9,000.

PROPOSED NEW BUILDINGS & OTHER WORKS*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T for Ministry of Transport: C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

AUDENSHAW.—Plans have been passed by the Council for ten houses, Elmfield-road, for G. Blackwell.

BAMBER BRIDGE.—The members of St. Aidan's Institute have a scheme on hand for the erection of a new building.

BAMFORD.—The Norden D.C. are proposing to erect a new tram shelter and conveniences at the Woodyard. Plans are by the surveyor.

BARNET.—The Council's surveyor has prepared plans for 10 parlour-type and four non-parlour-type houses, and a block of five shops with flats over, to be erected in Mayo Lane-road.

BARNSLEY.—A new cinema is to be built by Messrs. Cudworth, Palace of Variety, Ltd. The architect is P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street.

BECONTREE.—The L.C.C. recommend that £360,000, submitted by the Finance Committee in respect of the development of the Dagenham No. 6A section of Becontree to cover the cost of the erection of about 589 houses, including the necessary roads and sewers, be approved, and also £1,290,000 in respect of the development of the Dagenham No. 8 section of Becontree to cover the cost of the erection of about 2,235 houses, including the construction of the necessary roads and sewers.

BEDFORD.—The R.D.C. are negotiating for the purchase of sites at Wymington, Stagsden, and Cotton End.—Plans passed: House at Biddenham, for H. S. Manning; house at Biddenham, for C. T. Hammond; house at Biddenham, for J. Hendra; house at Bromham, for W. J. Wilkinson; amended plan of house at Oakley, for J. Sanden.

BELFAST.—The Corporation are to apply for sanction to a loan of £5,000 for the purpose of altering and equipping the old Town Hall for use as education offices and central clinic.—The Corporation is to proceed with the construction of a ferro-concrete chute at the pumping station, for the new sewerage scheme.—The E.C. has acquired a site in Hemsworth-street, upon which they propose to erect a new elementary school.

BEXLEY HEATH.—The U.D.C. passed plans: House and shop, Cold-blow, Bexley, for Chas. Beasley (submitted by W. B. Butler); 32 houses, The Grove, Danson-road and Bean-road, for J. W. Ellingham, Ltd.; shops, High-street, Welling, for W. V. Parker; amended plan for two houses, Lion-road, for E. J. Garlick & Sons; amended block plan for six houses, Little Danson estate; bungalow, Methuen-road, for T. W. Bedford (submitted by R. Gingell); bungalow, Tilekiln-lane, Bexley, for T. White (submitted by Staple & Harvey).

BILLINGHAM.—Upon the recommendation of the Housing Committee, the U.D.C. decided to erect 166 houses on the Belasis-lane site, and the M.H. has sanctioned these, also a further 58 houses on the Chilton-lane site.—The Housing Committee are to consider the question of erecting houses on land adjoining the High Clarence-road.

BIRKENHEAD.—Contracts are to be offered in respect of the building of the new super-cinema in Borough-road. The plans, by H. A. Thomas, A.R.I.B.A., 15, Lord-street, have already been passed. The building will seat over 1,200.

BIRMINGHAM.—Messrs. Joseph Lucas, Ltd., are to build a country rest home for their women workers, at a cost of £5,000.—A company has been formed to acquire the piece of freehold land and partially built picture theatre in Stratford-road, Hall Green.—Ritz Cinema, Birmingham, Ltd., has been registered for the purpose of building a picture theatre at Bordesley Green.

BLACKPOOL.—The B.E. has returned the plans for Abbey-road School, and has approved them, subject to certain economies being effected in connection with the cloak-room wing and the offices, and the C.B. resolved that the modifications be adopted.—The Council has considered the question of the erection of additional houses for the working classes, and resolved that a programme for the erection of 500 houses be approved to cover a period of the next five years.—The Housing Sub-Committee has considered the three sites available for the erection of houses, viz. (*a*) Hoo-hill; (*b*) land adjoining the new destructor at Bispham; and (*c*) land at Mather-street. Regarding (*a*) the Town Clerk has been instructed to serve notice for the acquisition of two plots of land; (*b*) the Borough Surveyor has been instructed to ascertain the amount of land available for the erection of working-class houses, and to prepare a plan showing the lay-out; and (*c*) the Borough Surveyor to prepare plans and estimates for the erection of 16 houses. Builders in the town are to be invited to submit schemes setting forth the terms and conditions upon which they would be prepared to erect houses for the artisan classes.—The Borough Electrical Engineer reported upon the desirability of provision being made for three new transformer sub-stations, and the C.B. resolved that the necessary land for the proposed sub-stations be acquired.—Application is to be made to the Electricity Commissioners for the sanction to the borrowing by the Corporation of £60,500, in connection with the Electricity undertaking.—The Parks Superintendent has been instructed to to prepare plans and estimates for the provision of extra office accommodation at Stanley Park.—The Borough Surveyor is to prepare a plan and estimate for the erection of a house on the plot of land situate at the corner of Levens-grove and Thornber-grove, on the St. John's estate.—The Borough Surveyor submitted the following elevations, which have been approved: (1) house, North Park-road, for Mrs. A. G. Schofield; and (2) houses, Loop-road, for A. Wilson and others.—Messrs. Wilson & Co., estate agents, 45, Topping-street, are proposing to develop the Coleridge estate by the erection of 10 shops and 150 houses.

BLYTH.—The C.B. passed plans: Shop and store, corner of Princess Louise-road and Croft-road, for J. Goulding & Son; sub-station, Barras-avenue, for The Northern Counties Electricity Supply Co.

BOURNEMOUTH.—The Council are borrowing £120,000 to complete the new pavilion.—It was proposed that the Borough Engineer prepare plans and estimates for the extension of the promenade westwards of Fisherman's Walk, at an estimated expenditure of £10,000.—Jackson & Greenen, 5, Telverton-road, have prepared plans for the proposed new cinema in Christchurch-road.

BRAMHALL.—The U.D.C. passed plans: Four bungalows, Windlehurst-road, High-lane, for J. Foulkes & Son; four bungalows, Windlehurst-road, High-lane, for T. Reid, Ltd.; amended plan for 30 houses on the Shepley House Estate, Norbury Moor, for F. Marsland.

BRIGHTON.—The M.H. has approved generally the T.C.'s scheme for the reconstruction of the Aquarium at a cost of £92,000.—It is proposed to prepare a bill to extend Brighton so as to include Rottingdean, Ovingdean, Patcham and part of Falmer.

BURTON-ON-TRENT.—Burton T.C. are considering a recommendation that the museum be extended at a cost of £5,742.

CHESHUNT.—The Housing Committee has recommended the U.D.C. to erect 32 houses on the Paul's site, at a cost of £15,300.

CHESTER.—The T.C. has resolved that (*a*) subject to the sanction of the M.H. and of the Electricity Commissioners being obtained, the sum of £850 be paid to Walkers, Parker & Co., Ltd., for the purchase of 2,730 square yards of land required for the widening and improvement of Station View-road, and for the site of a transformer sub-station; (*b*) that application be made to the M.H. for sanction to borrow the sum of £550, the balance of the purchase money, and a sum in respect of costs; and (*c*) that application be made to the Electricity Commissioners for their sanction to the transaction.

CHISWICK.—The U.D.C. passed plans: W. Doddington, amended plan of lock-up shops, Chiswick Common-road; H. J. Coleman, amended plan of four garages, Stamford Brook-avenue; H. J. May, amended plan of nine houses, Lawford-road; A. S. Earl, amended plan of four houses, Staveley-road; Mrs. B. Ross-Bain, house, Chatsworth-road; Schofield, Morris, Hull & Co., two houses, Eastbourne-road; A. H. Middleton, amended plan for house, Park-road; J. H. Bolton, house and portions of three other houses, Emlyn-road.

CLACTON-ON-SEA.—The U.D.C. passed plans: Two bungalows off Freeland-road, for F. Pennell; house in Jackson, for S. W. Hampton; two houses at corner of Hubert and Vista-roads, for T. Nightingale; two houses in Granville-road, for J. H. Green; shop and house in St. Osyth-road, for Daniel & Sons; semi-bungalow in Thorpe-road, for P. J. Morgan; two houses in Coronation-road, for Mr. Pethybridge.

COULSDON.—The U.D.C. passed plans: G. A. Baxandall, house, The Ridgeway, Sanderstead; A. Hartley, four terrace houses, Westleigh-avenue, Coulsdon; B. Moss, house, Hartley Old-road, Coulsdon; F. Flood, house, Church-way, Sanderstead; C. Knight, house and garage, Marlpit-lane, Coulsdon; F. A. Freeman, house, Hartley Down, Purley; M. Davey, house, Hillcrest-road, Purley; J. L. Ambler, house, The Ridgeway, Sanderstead; Varley & Parker, pair of semi-detached houses, Northwood-avenue, Purley; V. Shire, four semi-detached houses, Hartley Down, Purley; Miss H. Rutland, house, Starrock-road, Coulsdon; J. G. Cooper, four pairs of semi-detached houses, Vincent-road, Coulsdon.

CROYDON.—Plans for the extension of Kennards, at the rear in Hedgis'-yard, have been recommended for approval by the General Purposes Committee.

CUDWORTH.—The following plans have been approved by the D.C.: House and shop at Pinfold, Cudworth, for Mr. Holmes; house and shop, Darfield-road, for J. Wardle; two houses and shops, Darfield-road, for Messrs. Bailey.

DARTFORD.—The U.D.C. passed plans: Bungalow, Wayville-road, for F. C. Phillimore; house, Stanham-road, for S. Foster; house, Shepherds-lane, for B. P. Bezant; block plan and building plans for 32 houses, Park-road, for Randall (Contractors), Ltd.

DERBY.—In regard to the provision of houses, a loan of £5,820 is recommended for the purchase of land on the Cowsley estate, and contracts for 300 more houses are also recommended for the Allenton estate.

DENTON.—The City of London Corporation have again recommended that, subject to the approval of the M.H., a brick-built hospital for smallpox cases, with accommodation for eight beds, be erected at Denton, to replace the existing structure, at a cost of £4,500.

DEWSBURY.—The C.B. passed plans: W. C. Wakefield, lay-out of houses and new sewer, Church-lane and Frank-lane; R. W. Cropper, dwelling-house, Bywell-

*See also our List of Contracts, Competitions, etc.

oad; H. Green, two houses, Bywell-road; G. H. Peace, two houses, Bywell-road.—The Town Clerk reported that the M.H. has agreed to the principle of the erection of 65 houses on the site at Thornhill proposed to be leased from the Saville Estate, and the Borough Surveyor has been instructed to prepare plans and obtain tenders for the erection of the houses.

DUBLIN.—Plans for the conversion of the Tivoli Theatre, Dublin, prepared by P. Y. Munden, architect, South Frederick-street, have been approved. The Union Commissioners have approved the new works at the Pelletstown Auxiliary Workhouse, at a cost of £3,000.—The City Commissioners recommend that the Hibernian Bank, Ltd., be granted a lease of the premises, 27, Saint Andrew-street and 6, Church-lane, for the purpose of erecting a new building.—The following plans for new buildings and works of construction have been approved by the City Architect: Shandon-drive, Phibsborough, 22 houses, G. F. Byrne; Jervis-street Hospital, new X-ray department.

EARLS BARTON.—The Parish Council has adopted a recommendation that 16 houses be erected, subject to the approval of Wellingborough R.D.C.

EDGWARE.—The reconstruction of the fourteenth-century tower of Edgware parish church has been begun.

FAREHAM.—The R.D.C. have decided upon the erection of another 200 houses in the following parishes: Boarhunt, 8; Crofton, 32; Hook-with-Warnash, 26; Porchester, 24; Sarisbury, 50; Southwick, 8; Lichfield, 32; Wickham, 21; and Widley, 8.

FELTHAM.—The U.D.C. has decided to purchase the Poors Land for the purpose of a housing site.

GUILDFORD.—It has been decided by the R.D.C. to apply to the M.H. for sanction to borrow £10,000 for the erection of 12 cottages at Pirbright, three at Puttenham, and six at West Horsley, the Ministry having sanctioned the acceptance of tenders amounting in all to £9,899.

HASTINGS.—The T.C. passed plans: Amended plans of bungalow, Upper Park-road, for W. J. Potter, per P. H. Oxley, architect; house and garage, Flisham-road, St. Leonards, for H. Crafter, per H. Burleigh, architect; house, 9, Pinders-road, Clive Vale, for J. H. G. Vine, per J. Hunt, architect; house, West Hill, St. Leonards, for Mrs. Heitmann, per H. M. Jeffery, architect; two pairs of houses, new Arterial-road, for W. G. Stanton; amended plans of bungalow, Battle-road, Hollington, St. Leonards, for R. Brett, per H. M. Jeffery, architect.

HAWKESWORTH.—Mr. F. Broadbent, architect to the Leeds E.C., has prepared plans for the erection of a new elementary Council school upon the new housing estate.

HAYES.—The U.D.C. has received a letter from the E.C. stating that proposals were in hand for the enlargement of the Townfield Council school, and that plans had been approved by the B.E.

HOLGATE (BARNSLEY).—Plans are being prepared for the erection of an additional wing to the Holgate Boys' Grammar School, at an estimated cost of about £19,000. Dyson, Cawthorne & Coles, Regent-street, Barnsley, are the architects.

HORNSEY.—The T.C. are to erect 32 cottages on the Rectory-gardens site, at a cost of £18,275.—The Rookfield Garden Village, Ltd., submitted a number of plans, which were all approved. These were for two houses in Etheldene-avenue; for two blocks of flats, 1–19 and 20–26, Woodside, Fortisgreen; for garages, with cottage rear of Cranmore-way; and for gararges, with house, at Fortis-green.

HOVE.—The T.C. passed plans: Hunter & Bedford, for C. C. Broad, house and garage, The Drive; F. S. Jarvis, for Heaps & Pinks, pair semi-detached houses, Glebe-villas; F. S. Jarvis, for S. Viney, house, Margery-road; H. Spencer, two houses and garages, Marine-avenue at Tennis and Norman-roads.—The T.C. are to make application to the M.H. for sanction to the borrowing of £1,020 for a pair of non-parlour houses to be erected on the Old Shoreham-road estate.

HOWICK.—Earl Grey, it is understood, has decided to rebuild Howick Hall on modern lines.

HULL.—The T.C. passed plans: R. Finch, one parlour-type and two non-parlour type houses, Hedon-road; and J. Emmerson, six parlour type houses, Boothferry-road.

HURSLEY.—The R.D.C. passed plans: Bungalow, Park-lane, for Mrs. Martin; Keble memorial schools, Hursley, for the managers; bungalow, Shaftesbury-avenue, Chandler's Ford, for W. Ford; bungalow, Park-lane, Chandler's Ford, for G. Hedges; two houses, Kingsway, Chandler's Ford, for C. Vaughan; bungalow in Crescent-road, Chandler's Ford, for W. J. Paul.

KERRY.—The County Board of Health has authorised the expenditure of £200 on repairs to the County Home, to be carried out by the Engineer.

LEEDS.—The T.C. has resolved that an approximate area of 400 square yards of land, situate in Lisbon-street and Well-street, together with the buildings thereon, be purchased.—A plot of land situate in Elland-road, containing an approximate area of 640 square yards, is also to be purchased for the purpose of erecting a sub-station.—The necessary plans are to be prepared and tenders obtained for a covered concrete reservoir at Tinshill.—Plans and estimates are to be obtained for the extension of the Middleton Reservoir in reinforced concrete to a capacity of 1,500,000 gallons.—The T.C. has decided to forward to Sir Reginald Blomfield the plans submitted by Mr. G. W. Atkinson, for the new premises to be erected in Guildford-street, for the Leeds Permanent Building Society.—Tenders are being invited for the building of 161 houses on the Wyther housing estate.—The Council has resolved that the necessary repairs be carried out to the Union Bridge over Pudsey Beck, Roker-lane, under the City Engineer's directions, at the estimated cost of £250.—The application submitted by W. H. Clarke & Co., on behalf of G. Monkman, for permission to erect four shops on the site on the Cross Gates housing estate now indicated in lieu of three larger shops, has been approved.—The T.C. has approved the purchase by the Improvements Committee from the West Riding Land Company of land on the Cottingley Hall estate, Elland-road and Dewsbury-road, required in connection with the following purposes, namely, a cemetery site, a site for St. Paulinus Church, the widening of Elland-road and Dewsbury-road, and the construction of the ring road.—A letter submitted from J. S. Wright & Clay with respect to the proposal to lay out a village green and construct a shopping centre at Meanwood, and asking if this Committee are prepared to sell a portion of land on the Meanwood housing estate for the purpose, has been approved.—The Council has approved various constructional and renovation works at Armley Park, Cross Flatts Park, East End Park, Woodhouse Moor, Roundhay Park (including cleaning out of Waterloo Lake), Gipton Wood, and Kirkstall Abbey House and grounds.—The sanction of the M.H. to the borrowing of £38,121 for the extension of the Wholesale Meat Market and Abattoirs has been received.—Application is to be made to the M.H. for sanction to the borrowing of £27,000 for the reconstruction of various roads.—Application is also to be made to the Electricity Commissioners for sanction to the borrowing of the following sums: £400,000, estimated expenditure on mains for three years commencing April 1, 1927; £95,000, estimated expenditure on services for two years commencing April 1, 1927.—Plans passed: G. B. Vine, Ltd., house, Drummond-avenue, Otley-road; W. Thompson & Sons, semi-detached and six semi-detached houses, Brudenell-road; Pickard & Co., 52 houses, Spring Bank-crescent and Richmond-avenue, Headingley; Executors of G. Bray, iron fire-escape staircase to Low Hall Mills, Isle-lane, Holbeck; Shaftesbury Cinema (Leeds), Ltd., cinema, lock-up shops, &c., Harehills-lane and York-road; two houses and shops in Dibb-lane, H. A. Townsend; six garages at the back of Devonshire-lane, W. Naylor; bakehouse and shop in Dibb-lane, A. Ward.

LEYLAND.—Plans were passed for three pairs of houses in Ormskirk-lane and 12 bungalows off Slater-lane.—The plans of F. Howorth, architect, Lime-street, Preston, for the erection of the parish hall, has also been approved.

LONDON (BERMONDSEY).—The L.C.C. recommend the borrowing by the B.C. of £22,037 for housing purposes within the borough.

LONDON (GREENWICH).—The B.C. recommend the borrowing of £17,900 for the construction of a jetty.

LONDON (LAMBETH).—The B.C. recommend that a portion of the wall and railings between the Cemetery and the land to be appropriated should be demolished and re-erected along the Blackshaw-road frontage, and the unclimbable fence along such frontage should be taken down and re-erected between the land and the remainder of the allotments, at an estimated cost of £585.—That tenders be invited for the relaying at the end of the summer season and taking up at the end of the winter season of the portable floor of Prince's Hall, Lambeth Public Baths.—Plans passed: F. E. Jones, building at 160 and 162, Norwood-road.

LONDON (POPLAR).—The L.C.C. recommend that £2,307, submitted by the Finance Committee in respect of a contribution by the Council of one-half of the net cost of the reconstruction and widening by the Poplar M.B.C. of Wick-lane Bridge, be approved.

MALDON.—The Housing Committee of the T.C. has received from the Crittall Manufacturing Co., Ltd., a letter stating that a building site of 400 ft. frontage had been purchased in the Fambridge-road, on which they proposed building houses.

MANCHESTER.—Plans for the erection of a tower to the Church of the Holy Name, Oxford-road, Manchester, has been approved by the City Council.

MARGATE.—The T.C. passed the plans for the following: Two houses, Barnes-avenue, H. J. Fuller; house, Waverley-road, H. Goodban; six houses, Tivoli Park-avenue, F. W. Miles; four houses, Kent-road, H. V. Emptage; six houses, Kent-road, S. Crofts; two houses, Northumberland-avenue, six houses, Holly-lane, Reeve & Reeve; house, Wellis-gardens, six houses, Westfield-road, Billinghurst & Webb; house and garage, Barnes-avenue, for W. B. Wilkins; house, Westbrook-avenue, for A. B. Vanner; two houses, Kent-road, for Peall & Co.; four houses, Dane Valley-road, for H. V. Emptage; two houses, Dane-road, for G. Arnold; house, and house and shop, Clifton-gardens, for W. B. Wilkins.

MOLESEY.—The U.D.C. has approved a lay-out plan of 74 more houses to be built in pairs, 44 having parlours, and the architect has been instructed to prepare the specifications so that tenders might be obtained.—It was also decided that steps be taken to acquire by compulsory purchase Church land at West Molesey for housing purposes, and that similar action be taken regarding other land unless the Council and the owners could agree as to the price.—Subject to the sanction of the Ministry, it was decided to erect another pair of houses in Spreighton-road.

MUMBLES.—The plans for the new picture theatre to be built at Newton-road have been prepared by the architect, C. R. Peacock, F.R.I.B.A., Temple Buildings, Swansea, and tenders are shortly to be invited.

NEWTON ABBOT.—Extensive alteration and modernisation, including the erection of a balcony, is to be carried out at the Alexandra Hall, by Captain Webb, Grove-road, Leighton Buzzard.

NEWPORT (MON).—The T.C. has been recommended to purchase land in Commercial-road, for the erection of a special small-type house as an experiment. The site will afford accommodation for 120 houses of this new type.—Plans approved by the Corporation: Two houses, for Sparkes Bros.; two houses, for N. McPherson, F. R. Bates & Son (architects); two houses, for Brown & Preece; house and garage, for C. E. Groves; two houses, for J. W. Rabbit; two houses and shops, for Brown & Preece; four houses, for T. Addis; two houses, for J. Watkins; house, for Jones, Jones & Co.

OLDHAM.—The C.B. has sanctioned plans: Trustees Oldham Parish Church Schools, extensions and new story to wash-house, &c., in yard, Oldham Church School, Burnley-street; J. & J. Blunn, five houses, Crete-street; Wm. Makin, five houses, Heron-street.

PLYMOUTH.—The Admiralty is to build 200 houses at Plymouth for dockyard employees transferred from Rosyth.—The C.B. has received the following sanctions: Electricity Committee—£37,835, generating plant. Housing Committee—£8,830, erection of 18 flats at Strand-street; £135,650, for 256 houses at North Prospect; £15,000, repairs to premises; Watch Committee—£1,212, erection of new Weights and Measures Office at Pottery Quay.—The Finance and Special Purposes Sub-Committee and the Chairman of the Housing Committee have visited and inspected the alternative site at North Prospect below Greatlands-crescent, which the Housing Committee are willing to allocate as a site for a branch library.—The Borough Surveyor has submitted a plan and estimate of £125 for carrying out certain alterations to 3 and 4, Radford-place.—The Medical Officer has submitted an estimate of £1,671 from a laundry engineer for the extension and reconstruction of Mount Gold Hospital laundry, and the C.B. resolved that the estimate be approved.—The Borough Surveyor has submitted plans of Corporation sites at Prince Rock suitable for the erection of factories, and plan showing approximately 11 1-3 acres has been approved for letting on lease for factory sites. The land comprising approximately 8 2-3 acres abuttingon the Cattewater has been reserved for Corporation purposes.—The Borough Surveyor has prepared a plan for the lay-out of North-street and Moon-street premises, and tenders are to be invited for carrying out the repairs.—The Borough Surveyor is to invite tenders for the demolition of the cottage at Mount Gold.—Additional flats are being proposed for Pottery Quay.—The Town Clerk has reported that the M.H. has approved the erection of 256 houses at North Prospect, for purposes of subsidy.—Plans and estimates of £820 for the provision of new lavatory accommodation at the works have been submitted, and approved, and the Engineer has also been instructed to do the work.—The Borough Engineer is to erect a new lavatory at Milehouse, at a cost of £2,500.—Application is to be made to the M.H. for sanction to borrow the sum of £1,022 in respect of the provision of the lavatory block at Didworthy Sanatorium.—The Town Clerk has reported with reference to his negotiations for the purchase of lands for the extension of the Mental Hospital and he has also reported that the owners were willing to sell on the terms, so obviating the necessity to apply for compulsory powers.—A letter from the Board of Control enclosing copy letter sent to the Western Counties Institution, Starcross, with regard to the proposals for acquiring further land at Langdon Farm, adjoining the Institution, for the purpose of providing a colony which would serve the Counties of Devon and Cornwall, and suggesting a conference between the managers and the local authorities with a view to the preparation of a scheme for the erection thereon of colony buildings and for the subsequent administration of the same, has been received and the Council has resolved that the suggestion be approved and that the chairman and vice-chairman be appointed to attend the meetings in connection with the conference.—Plans passed: J. Neal, two houses, Fircroft-road; W. Mumford, five houses, Carmarthen-road; F. Kaphan, two houses, Goschen-street; E. J. Manning & Son, two houses, Weston Park-road; S. Tellam & Son, four houses, Weston Park-road; F. E. Searle & Son, house and shop and lock-up shop at rear, Peverell Park-road; H. L. Pile, two houses, Trevarthian-terrace; F. Hockaday, house, 71, Browning-road; Pearce Bros., house, Glenwood-road; Electricity Department sub-station rear of St. Boniface Church.

POOLE.—The T.C. has adopted a £10,000 scheme for the development of Sandbanks. The scheme comprises shelters, beach bungalows, bathing rooms, a promenade, motor parks, paths, and gardens.

PORTSMOUTH.—The T.C. passed plans: E. England, house, Drayton-lane, Cosham; J. H. Chandler, 21 houses, Dartmouth-road; F. H. Fifield, house

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Chesterfield-road; Brown & Fuller, four houses, Locarno-road; R. C. Brittan, six houses, Milton-road, Copnor; H. G. Gales, bungalow, Lendorber-avenue, Cosham; M. Marsh, house, Cavendish-road; Mr. Price, two houses, St. John's-road, Cosham.

READING.—The T.C. has resolved that the plan submitted by the housing architect showing proposals for the lay-out of 137 houses on the Oxford-road site be approved, and that the housing architect provide in his specification for the erection of the houses in brick.

REDDITCH.—The U.D.C. are to apply to the M.H. for sanction to borrow £18,000 for the erection of 4' houses on the Besley-road estate.

ROCHFORD.—The Hospital Committee recommend that plans for the proposed new blocks for senile dementia cases, to be erected on the land lying to the west of the Institution, be forwarded to the M.H. for approval, and the B.G. has approved the recommendation.

ST. ANNE'S-ON-SEA.—A large dance hall is to be erected on a site in King's-road. Mr. A. England, 16, St. Andrew's-road South, is the architect.

SCARBOROUGH.—The M.H. has held an inquiry into the application of the T.C. to borrow £3,794 for the construction of underground conveniences in Harcourt-place.

SHEFFIELD.—The T.C. has approved the following plans: Two houses, Tapton-avenue, for L. J. Samuel; bungalow, Abbey-lane, for A. Tate; three houses, Grove-avenue, for P. H. Slater; two houses, Struan-road, for J. Vasey & Son; two houses, Charles Ashmore-road, for G. R. Parkin; two houses, Southey Green-road, for W. H. Abdy; two houses, Glebe-road, for A. Ellis; four houses, Airedale-road, for B. F. Glossop; two houses, Charles Ashmore-road, for Oates & Samuel; house, Bellhouse-road, for S. Roebuck; four houses, Moonshine-lane, for Mrs. M. D. Wilson; house, Marlcliffe-road, for A. Condell; six houses, Bingham Park-crescent, for W. Malthouse, Ltd.; six houses, Grove-avenue, for J. N. Reed; six houses, Arbourthorne-road, for Mason & Robinson; house and garage, Chorley-drive, for F. G. Norton; house, shop, dairy and garage, Wulfrie-road and Windy House-lane, for J. Buckley; six houses, Hartington-avenue, for E. Sivil; four houses and shops, Cobnar-road and Derbyshire-lane, for H. J. Taylor; house and garage, Knowle-lane, for J. H. Collins; house, shop, workshop and petrol store, Upwell-hill and Upwell-lane, for T. Lucas; two houses and garages, Kingfield-road, for R. J. Stokes; 101 houses, Longley estate, for Estates Committee.

SKEGNESS.—Plans have been deposited with the Council for the erection of a large hotel north of the Seacroft Hotel, at the junction of South-parade and Barbara-road.—Building operations are also in progress on the strip of land on the South-parade and the erection of boarding-houses.

SOUTHALL.—The U.D.C. has accepted tenders of £24,948 for 50 houses.

SOUTH CORK.—Mr. Commissioner O'Farrell, at a meeting of the South Cork Board of Public Assistance, said that it was proposed, as far as South Cork was concerned, to erect a cottage hospital at Bandon, and a cottage and fever hospital at Macroom. The question of providing a cottage hospital at Kinsale was also under consideration, but formal approval had yet to be obtained. Plans, &c., in connection with the buildings at Bandon and Macroom were being prepared, and he hoped to be in a position to advertise for tenders at an early date.

SOUTHEND-ON-SEA.—The C.B. passed plans: Shop, Fairfax-drive, for P. E. Button; house, Thorpe Bay-gardens, for C. Matthews; hotel premises, Eastern Esplanade, for Charrington & Co., Ltd.; house, Cumberland-avenue, for H. T. Griffiths; shop, Cricketfield-grove and London-road, for Hovis, Ltd.; two houses, Bailey-road, for Twitchett & Co.; shop, South-avenue, for W. Griggs; hotel premises, Wilson-road, for W. Skelton; house, Boscombe-road, for H. Carter; six houses, Oakhurst-road, for W. G. Sloman; house and shop, Fairfax-drive, for P. E. Button; house and garage, Woodfield Park-drive, for E. Burrows; house and garage, Thorpe Bay-gardens, for C. Matthews; four houses, Fermoy-road, for J. Sumner & Co.; four houses, Clatterfield-gardens, for F. G. Bethley; two houses, Olive-avenue, for J. Wood & Sons; two houses, Belfairs-drive, for P. & D. Barham; house, Carlton-avenue, for E. C. Adams; bungalow, Park-side, for F. W. Stockwell; three houses, Marguerite-drive, for Wiltshire & Bass; six houses, Lonsdale-road, two houses, Cumberland-avenue, for H. T. Griffiths; plant house and summer house, rear of 52, Avenue-road, for C. Heddle; three shops and warehouse, York-road, for Owen Wallis & Sons; eight houses, Durham-road, for A. E. Whistler; amended plan of house, Victoria-road, for R. Pratt; house, Preston-road, for C. Davis; house, Lord Roberts-avenue, for Mrs. M. L. Patterson; amended plan house and garage, Southbourne-grove, for Burrill Bros.; amended plan of two houses, Redcliff-drive, for H. Brewer; amended block plan of two houses, Bailey-road, for Twitchett & Co.; house, Chalkwell Park-drive, for G. Eves; bungalow, Olive-avenue, for A. Stibbard; house and garage, Blenheim-chase, for J. Heath; five lock-up shops, Sutton-road, for W. Griggs; house and two garages, Westcliff Park-drive, for J. Barnes & Sons; two houses, Kent View-avenue, for A. J. Cross; two shops and houses, Sutton-road, for F. A. Haywood; bungalow, Thorpe Hall-close, for F. W. Goldsworthy; additional school buildings at Highfield College, Hadleigh-road, for L. Noxon; two houses, Christchurch-road, for H. Carter; six houses, Oakhurst-road, for A. Bint; amended plan of bungalow Blenheim-chase, for J. G. Daniels; bungalow, Kingswood-chase, for J. G. Daniels; amended plan showing six houses in lieu of five, Southbourne-grove, for F. J. Feesey; amendment showing one house in lieu of two, Southbourne-grove, for Burrill Bros.; house and garage, Park-side, for F. E. Hancock; four shops and flats over, Southchurch-road, for W. G. Kimpton & Sons.—A new elementary school is being built in Southend at a cost of £24,500.

SOUTHPORT.—To provide work for the unemployed, Southport Corporation has adopted a scheme estimated to cost £60,000, for the construction of a new bathing lake.

STRETFORD.—The B.E. has given their sanction and approval of the plans for the construction of an open-air school at Longford-park. Preliminary plans have been approved for the erection of a school to accommodate 400 scholars on a site at King's-road. The architect, P. Howard, A.R.I.B.A., of 88, Mosley-street, has been instructed to prepare a block plan, section, and alteration of the building. — The U.D.C. has accepted the offer of the Trafford Estate, Ltd., for the acquisition of land in Hancock-street and Bridgewater-street. — The Council has resolved that the plans of the proposed baths in Trafford Park be amended to permit of the installation of twelve instead of six wash baths, and that the scheme be adopted in accordance with the specifications of the architect. Plans passed: Shop and house, Moss-road, for Miss L. S. Taylor; 54 houses, Warwick-road South, &c., for J. G. Whitelegge.

SUNBURY.—The U.D.C. are to invite tenders for internal decorations of 20 houses in Nursery-road, and 28 houses in Sutherland-avenue.—Plans passed: Cheverton & Co., 12 houses, Burgoyne and Charlton-roads.

THORNTON.—The Building Plans Committee approved plans for a pair of semi-detached houses and garages in The Grove, for A. A. Holt; pair of semi-detached houses in Coronation-road, for S. Brooks; pair of semi-detached houses in Beach-road, for A. Dawson; pair of semi-detached bungalows and garages in School-road, for T. Worthington; two semi-detached houses and garage in Rough Lea-road, for W. Gaskell; six pairs of houses in Rossendale-avenue, for J. H. Harrison; 28 pairs of houses in Rossendale-avenue, and Devonshire-avenue, for J. H. Harrison.

TOTTENHAM.—The U.D.C. has passed plans: Six houses in Shelbourne-road, H. Jackson; two in Drayton-road, C. L. Lowe; 12 houses, Thackeray-avenue, Walters & Blake.

WALTHAMSTOW.—The U.D.C. passed plans: House, Ulverston-road, H. Baverstock; six garages, showroom, w.c., and lavatory, Markhouse-road, H. Presland; new hall, Hoe-street, Salvation Army; house, West side Ulverston-road, T. West.

WARRENPOINT.—The U.D.C. has been authorised to borrow £555 for town hall improvements.

WARRINGTON.—The Town Clerk has received the sanction of the Minister of Health to the borrowing by the Council of the sum of £17,000 for the purchase of Bewsey Estate for housing purposes. The Borough Surveyor has been instructed to advertise for tenders for the erection of 60 houses on the estate. Schemes for the provision by private builders for the erection of 236 houses for rental purposes have received the approval of the T.C. R. & S. Smith, builders, Orford, are to erect 100 houses on the Alder-lane site, and D. Cooper, Clarence-street, proposes to build 136 houses between Manchester-road and Padgate-lane.

WARWICK.—The R.D.C. has approved plans: Two houses in Grove-avenue, Lime Tree Park, for F. Deeley; four houses in the same avenue, for H. J. Dalton; four houses, for W. G. Davis; house at Hareway-lane, Barford, for E. L. Watson; house and shop at Cubbington, for Atkinson & Bennett; four houses, for Turner & Stidworthy; four houses, for A. H. Pettitt; house at Baginton, for W. Yardley; bungalow at Westwood-gardens, for H. Bushill; two bungalows for the Standard Motor Co.; eight houses in Broad-lane, for Messrs. Horne.

WATERFORD.—The Waterford Corporation has agreed to borrow £1,000 for the erection of an auxiliary pumping station at Newtown, and the work to be done by direct labour under the supervision of the Borough Surveyor.

WHITBY.—The U.D.C. has decided upon considerable improvement to the Spa Theatre, including increase of seating. F. W. Plaxton, Marlborough-street, Scarborough, is the contractor.

WIGAN.—The Wigan T.C. are considering a scheme for the erection of houses on the Gidlow estate, by direct labour. The Borough Engineer has prepared the lay-out and plans. The scheme is to be submitted for approval to the M.H.

WINCHESTER.—The R.D.C. passed plans: Bungalow, Hookpit, T. Witcher; houses, Fair Oak, Birch & Reeves; cottage, Horton Heath, F. Lipscombe; house, Fair Oak, E. Randall; bungalow, King's Worthy, Mrs. G. Loader; bungalow, South Wonston, D. Talbot; bungalows, Twyford, E. H. Watling.

WINDLESHAM.—The U.D.C. propose erecting five pairs of houses at the Avenue, Lightwater.

WOKING.—The U.D.C. are proposing to build a new fire station on St. Dunstan's site, at a cost of £6,000.

WORPLESDON.—Tenders are to be invited by the Guildford R.D.C. for the erection of six more houses on the Clasford site.

WORTHING.—The Finance and Law Committee recommend the Council to borrow for the following purposes: Pier Pavilion, £21,835; bandstand and band enclosure superstructure, £1,075; construction of waterworks, £10,000.—The Highways and Works Committee report having received a lengthy report from the Borough Surveyor on the reconstruction of the Corporation depot. Mr. Harvey submitted a scheme of reconstruction to cost £12,350, and if new workshops are provided there will be an extra cost of £650. The Committee recommended that the scheme be approved and that sanction to the borrowing of £13,000 be sought from the M.H.

WORTLEY.—The R.D.C. has approved the plans of the proposed new elementary school to be erected at High-green. The new building will accommodate 300 scholars.

YORK.—The T.C. has approved plans: T. Harrison, two houses, Millfield-lane; H. Lawson, house and garages, Fishergate; C. Tesseyman, two houses, Tang Hall-lane; H. Williamson, ten houses, Lamel-street; City of York Tramway Employees Club and Institute, club premises, Fishergate; H. C. De Burgh, two houses, Stockton-lane.

PATENTS.

APPLICATIONS PUBLISHED.*

253,989.—Hill & Co., Ltd., and H. Tomkins. Hinges for swing doors.

254,014.—C. Speakman. Desks, writing-tables, and the like.

254,041.—Gross, Sherwood & Heald, Ltd., R. A. Phillips, and H. A. R. Thurlow. Manufacture of nitro-cellulose varnishes.

254,055.—C. J. Gosling. Seats.

254,084.—C. J. Cooper. Measuring device for paint and other fluids.

254,012.—British Reinforced Concrete Engineering Co., Ltd., and E. B. Hall. Metal reinforcements of concrete cylinders and the like.

243,108.—J. Muirhead and D. P. Muirhead. Ventilating apparatus for buildings.

241,886.—Lowenstein, Karl, Prince Zu. Devices for drilling or chiselling stone.

254,140.—A. Mitchell and J. W. Smith. Window sashes.

254,201.—W. Falkenberg. Process for renovating oil discarded timber sleepers.

231,894.—G. Schlesinger. Apparatus for manufacturing bands of veneer or thin sheet-wood.

254,436.—Whittaker & Co., Ltd., and N. Whittaker. Brick-making machinery.

254,486.—Scottish Central Iron Co., Ltd., and W. Harrison. Combination back-to-back grates.

254,491.—J. Holt. Flush-pipes, waste or drain pipes.

254,524.—W. Harris. Casting of concrete walls in situ.

254,535.—J. Barron. Water-closet basins and their traps.

240,428.—C. W. Akers. Moulds for making concrete blocks.

254,569.—P. L. Pardon. Flexible metal union-piece for piping connections.

254,585.—W. Cross. Combined cooking stoves and hot-water boilers.

254,594.—M. D. East. Storage buildings.

254,629.—Leabank Manufacturing Co., Ltd., and C. J. Mortimer. Semi-permanent buildings.

254,641.—Caswell & Shearing, Ltd., and G. F. Caswell. Guy derricks.

254,642.—F. J. Bellchambers and T. W. Pemble. Cowl for chimneys, ventilating-shafts, and the like.

254,808.—W. Slade and C. Johnson. Blocks or slabs.

254,813.—K. Erdmann. Building elements.

254,817.—J. W. Barratt and A. J. R. Wilkins. Fire-grates and ovens.

254,855.—R. L. Bendall. Shuttering and accessories.

254,876.—Nettlefold & Sons, Ltd., and C. A. Ely. Door closers and checks.

251,939.—Perfect Window Regulator Corporation. Sliding windows.

250,222.—J. L. Badel. Framing for walls and like constructions.

255,227.—J. K. Lindhart and H. H. Lindhart. Tiled roofs.

255,230.—H. Evans. Apparatus for use in the construction of concrete buildings.

238,575.—A. C. Dodman, jun. Wall coverings.

241,919.—E. Pauly. Process and apparatus for making hollow monolith building-elements.

255,287.—C. Bowerman and Somerset Trading Co., Ltd. Tiles.

255,287.—J. T. Dowdall, A. E. Dowdall and Hygienic Wire Works, Ltd. Metal tiles.

239,224.—E. Sperle. Filler-blocks for floors.

255,311.—F. Morton. Manufacture of paving-blocks.

250,568.—H. Ruef. Process of and apparatus for mixing concrete and mortar.

255,509.—T. Whiting. Shuttering for erecting concrete walls.

255,562.—J. H. Paveley. Bricks for buildings.

255,575.—L. White. Method of and means for constructing concrete buildings.

* All these applications are now in the stage in which opposition to the grant of patents upon them may be made.

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Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to	0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to	0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to	1 1 0
Dry Cuba Mahogany, ft. cube	1 4 0 to	1 10 0
Dry Teak, ft. cube	0 13 0 to	0 15 0
Dry American Whitewood, ft. cube	0 11 0 to	0 14 0
Best Scotch glue, per cwt.	4 10 0 to	—
Liquid Glue, per cwt.	4 7 0 to	5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons. Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	⅞ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50%	60%
Galvanised Gas	45 %	40%	50%
Blue Water	55 %	45%	55%
Galvanised Water	38½ %	35%	45%
Red Steam	50 %	40%	50%
Galvanised Steam	32½ %	30%	40%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/3	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2/0½	3/0½
4 in. "	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. plain	3 3	2 4½	2 10
2½ in. "	3 9	2 7½	3 7
3 in. "	4 6	2 10	4 2½
3½ in. "	4 11½	3 7	4 11½
4 in. "	5 5½	4 0½	5 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

Per yd. in 9 ft. lengths	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in.	4 4	5 1	8 0½
4 in. "	6 2	5 8	10 0
5 in. "	7 2	10 10	17 1
6 in. "	8 6	13 2	21 9

Gasket for jointing, 38/6 per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0		15 5 0
Staffordshire Marked Bars	16 5 0		17 5 0
Mild Steel Bars	10 0 0		11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0		11 0 0
Hoop iron, basis price	12 0 0		13 0 0
" Galvanised	27 0 0		28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	13 5 0		14 5 0
" " " 24 g.	14 5 0		15 5 0
" " " 26 g.	16 5 0		17 5 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0		16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0		17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0		20 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0		19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0		20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0		23 0 0
Sheets Galvanised Corrugated Sheets—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0		23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0		26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0		26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0		20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	43 0 0
Pipe in coils	44 10 0
Soil Pipe	46 10 0
Compo Pipe	47 10 0

NOTE—Country delivery, 30s. per ton extra : lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	28 0 0		—
Do., ex country, carriage forward per ton	29 0 0		—

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 1
Strong sheet "	1 0
Thin "	1 1
Copper nails "	2 3
Copper wire	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1½ in.	1¼ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1½ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers' 1/3, Tinmen's 1/6, Blowpipe 1/7 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 2
" " "	in barrels "	0 3 3
" " "	in drums "	0 3 5
Boiled " "	in barrels "	0 3 5
" " "	in drums "	0 3 8
Turpentine	in barrels "	0 5 3
"	in drums (10 gall.) "	0 5 5
Genuine Ground English White Lead, (In not less than 5 cwt. casks.)	per ton	51 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J," Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	70 5 0
Red Lead, Dry (packages extra)	per ton	44 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Filocol	"	0 15 6
Size. XD Quality	"	0 3 6

Continued on next page.

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*).

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz...	3½d.
21 „ thirds	5½d.	„ „ 21	5½d.
26 „ fourths ..	5d.	Fluted 15 oz. 6½d., 21 oz.	9½d.
26 „ thirds	7½d.	En'lled 15 oz. 5½d., 21 oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
⅜ Rough rolled	5½d.
½ Rough rolled	6d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted Do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish.....	Outside	0 14 0
Fine ditto.....	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best ditto.....	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak.....	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black.....		0 7 6
Berlin Black.....		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Cuirass Black Enamel		0 7 0

TRADE NEWS

Boiler Work.

Messrs. Ruston & Hornsby, Ltd., of Lincoln the manufacturers of loco. boilers, have issued a comprehensive catalogue of their boiler work. This publication will be sent upon request by the firm, whose many contracts with well-known railway companies indicates their capability of handling high-grade boiler work.

Boilers for Domestic Water Supply.

Messrs, James Keith & Blackman, Co., Ltd., make and supply several types of boilers eminently suitable for the hot-water supply and central heating installations of the small house. Types of these boilers are illustrated in a new catalogue which will be sent upon request from the makers' head office, 27, Farringdon-avenue, E.C.4.

New Premises in Regent Street.

It should have been stated in the description of this work, which was illustrated in our last issue, that the stained leaded lights to the Tudor floors were provided by Messrs. William Morris & Co., Ltd.

Urban Housing Schemes.

At a recent meeting of Bulkington (near Nuneaton) Urban District Council a communication concerning housing was read from the Ministry of Health which pointed out that if an order was made fixing a lower Exchequer contribution the present contribution would be applicable to those houses now approved and completed by October 1, 1927. The Minister proceeded: It has been noted that in a number of recent cases where high prices were received the tenders were based on ordinary bills of quantities. The Minister is advised that the supply of such bills of quantities is not necessary for working-class housing schemes if the plans and specifications are carefully prepared, and it is particularly requested that tenders should be obtained upon plans and specifications only. The Minister is also of opinion that the contract price should not be subject to adjustment for variations in the cost of wages and materials, and it will be seen that the model form of contract obtains no provision for such adjustment.

THE SCOTTISH BUILDER

SCOTTISH WOODEN HOUSES

THERE are erected and in course of erection, near the Fife village of Colinsburgh, a group of wooden houses built on a Swedish model, which, it is claimed, may be introduced into Scotland economically and with exceptional expedition in the matter of construction. The houses had been approved by the Board of Health for the Government subsidy, on the same basis as brick houses. The largest of the houses, which are built on what is known as the "Ibo" system, is practically completed. It has an attractive appearance, to which the colouring, including the red of the tiled roof and the black of part of the walls contribute, while in the design there is architectural character. It has two public rooms and kitchen on the ground floor, and three bedrooms, with bathroom and lavatory, on the upper floor, and the total cost is stated at about £750. Two houses, suitable for working-class tenants, are nearing completion. They are of one story, and consist of kitchen and living-room, two bedrooms, and bathroom. The rooms are larger than in a comparable type of brick house. They meet the requirements of the £100 Government subsidy, and the estimated cost towards which the subsidy is available is £350 per house.

NEW BUILDINGS IN SCOTLAND

Paisley.—CINEMA.—A new cinema is to be built on a corner site in Queen's-street. Messrs. Gardner & Glen, 164, Glen-street, Glasgow, are the architects.

Kilmarnock.—THEATRE.—Messrs. John Green & Co., Ltd., of Nithsdale-street, Glasgow, have now commenced building the new picture theatre from plans by Mr. H. Barnes, 2, Richard-street, Anderston, Glasgow. The theatre will have a seating capacity for about 3,000. The estimated finished cost of the building is between £40,000 and £50,000.—The Empire Picture House, Ltd., 147, Bath-street, Glasgow, has been registered to carry out the building of the new Empire Picture Theatre.

Edinburgh.—CINEMA.—Some of the contracts for the new cinema to be erected at Abbey Hill have been placed. The architect is Mr. T. B. Gibson, 30, Rutland-square.

Duntocher.—CLINIC.—The Eastern District Committee of Dumbartonshire has approved of the erection of a clinic, at an estimated cost of £1,400.

Edinburgh.—HOUSES.—The Dean of Guild Court has passed the following plans: Sixteen flatted villas at Laverockbank-gardens, for City and Suburban Building Co., Ltd. The Tramways Committee and the Plans and Works Committee of the Town Council have decided to recommend the erection of a washhouse at Henderson-row.

Maxwelltown.—EXTENSIONS.—The Stewartry Education Authority have decided to extend the Laurieknowe School, by adding four classrooms to the building. The cost of the work is estimated at £2,500.

Arbroath. — EXTENSION. — The Forfarshire Education Authority have decided to proceed with the extension to the High School. The new building will consist of eight classrooms, a music room and gymnasium.

Dundonald.—HOUSES.—The District Committee has received the Board's approval to the erection of 18 houses at Dundonald Park.

Obituary.

The death has occurred at Alford of Mr. A. Thomson, contractor, Duddingston.

Appointment.

At the meeting of the St. Andrews District Committee, Mr. C. M. Dawson, road surveyor, Hawick district of Roxburghshire, was appointed assistant road surveyor for St. Andrews district.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 798.

CURRENT PRICES FOR BUILDING WORK IN LONDON

		s.	d.
EXCAVATOR.			
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0
CONCRETOR.			
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6
BRICKLAYER.			
Reduced brickwork in lime mortar and Fletton bricks	per rod	£ 30	s. d. 0 0
Add if in stocks	"	7	10 0
Add if in Staffordshire blues	"	22	0 0
Add if in Portland cement and sand	"	1	10 0
FACINGS.			
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft super	0	0 1¼
POINTING.			
Neat flat struck or weathered joint	" "	0	0 3
ARCHES.			
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0 10
Axed in stocks	" "	0	1 9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6 0
SUNDRIES.			
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1 0
Setting ordinary register grates and stoves	each	1	0 0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15 0
ASPHALTER.		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
¾ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2
MASON.			
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0
SLATER.			
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0
CARPENTER AND JOINER.			
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

	¾"	1"	1¼"	2"
Deal rough close boarding per sq.	35/6	40/-	45/-	72/-

	s.	d.
Flat centering for concrete floor, including struts or hangers per	50	0
Do. to beams per ft. sup.	1	0
Centres for arches "	1	6
Gutter boards and bearers "	1	0

FLOORING.	½"	1"	1¼"	1½"
Deal-edges shot per sq.		44/6	53/-	60/6
Do. tongued and grooved "		49/-	57/6	65/-
Do. matchings "	45/-	51/-		
Moulded skirting, including backings and grounds per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.	s.	d.
One-and-a-half moulded sashes or casements per foot super.	1	10
Two Do. Do. Do. " "	2	1
Add for fitting and fixing " "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size " "	3	9

DOORS.	1½"	1¾"	2"
Two-panel square framed per ft. sup.	2/1	2/4	2/6
Four-panel Do. "	2/5	2/8	2/11
Two-panel moulded both sides "	2/8	2/11	3/2
Four-panel Do. Do. "	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.	s.	d.
Deal wrot moulded and rebated per foot cube	14	0

	1"	1¼"	1½"
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers "	1/4	1/6	1/9
Add if cross-tongued "	2d.	2d.	2d.

STAIRCASES.	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

	s.	d.
Housings for steps and risers each	0	11
Deal balusters, 1 in. × 1¼ in. per ft. run	0	9
Mahogany handrail: average 3 in. × 3 in. " "	6	0
Add if ramped " "	11	10
Add if wreathed " "	23	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).			
6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and	
Casement stays	1/2	making good	19/-
Cupboard locks	1/5		

FOUNDER AND SMITH.	s.	d.
Rolled steel joists per cwt.	16	3
Plain compound girders "	19	0
Do. stanchions "	21	9
In roof work "	27	6

RAIN-WATER GOODS.

	3"	4"	5"	6"
Half-round plain rebated joints ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do. "	1/9	2/-	2/6	3/3
Rain-water pipes with ears "	1/9	2/7	—	—
Extra for shoes and bends each	4/4	5/11	—	—
Do. stopped ends "	1/11	2/4½	3/7	4/-
Do. nozzles for inlets "	2/2	2/7	3/10	4/3

PLUMBER.	s.	d.
Milled lead and laying in flashings and gutters per cwt.	59	0
Do. Do. in flats "	58	0
Extra labour and solder in coated cesspools each	6	9
Welf joint per ft. run	0	6
Soldered seam " "	1	6
Copper nailing " "	0	6

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service "	1/8	2/2	2/7	3/10	—	—
Do. soil "	—	—	—	—	—	6/9
Bends in lead pipe each	—	—	—	—	3/3	8/2
Soldered stop ends "	1/2	1/8	2/1	2/10	3/6	—
Red lead joints "	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints "	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws "	—	—	—	14/7	19/6	—
Bib cocks and joints "	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints "	15/4	17/2	25/8	64/-	—	—

PLASTERER.	s.	d.
Render, float and set in lime and hair per yard sup.	2	4
Do. Do. Sirapite " "	2	7
Do. Do. Keen's " "	3	7
Add sawn lathing " "	1	7
Add metal lathing " "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)		
Portland cement screed per yard sup.	2	2
Do. plain face " "	3	3
Mouldings in plaster per 1 girth	0	1½
One-and-a-half granolithic pavings per yard sup.	5	9

GLAZIER.	s.	d.
21 oz. sheet plain per foot sup.	0	8½
26 oz. Do. " "	1	0
Obscured sheet " "	1	1
¼ in. rolled plate " "	0	9
½ in. rough rolled or cast plate " "	0	10½
¼ in. wired cast plate " "	1	4

PAINTER.	s.	d.
Preparing and distempering, 2 coats per yard sup.	0	2
Knotting and priming " "	0	7
Plain painting, 1 coat " "	0	9
Do. 2 coats " "	1	2
Do. 3 coats " "	1	9
Do. 4 coats " "	2	4
Graining " "	2	3
Varnishing twice " "	1	9
Sizing " "	0	3
Flatting " "	0	7
Enamel " "	1	1
Wax polishing per foot sup.	0	6
French polishing " "	1	2
Preparing for and hanging paper per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance.

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.
*** Denotes accepted. † Denotes provisionally accepted.**
‡ Denotes recommended for acceptance.
‖ Denotes accepted subject to modifications.

ABERDEEN.—Rebuilding the Torry Picture Theatre, High-street. Messrs. Sutherland & George, architects, Crown-street :—

Electrical installation—
*North of Scotland Electric Light & Power Co., Montrose.
Plumbing—
*Fyfe & Hughes, Montrose.
Painting and decorating—
*Copland & Son, Aberdeen.

ABERDEEN.—Eight houses at Hayton-road, Woodside. Messrs. Tawse & Allan, architects, 10, Bon Accord-square :—

Slater—
*C. Stewart, Aberdeen.
Joiners—
*Calder & Henderson, Aberdeen.
Plasterers—
*Sellar & Co., Aberdeen.
Mason—
*A. Low, Newmachar.
Plumber—
*D. Ogilvie, Aberdeen.
Painters—
*J. Stevenson & Son, Aberdeen.

ALL STRETTON.—Farm building, for Salop C.C. Mr. W. J. Pulford, County Land Agent, Shirehall, Shrewsbury :—

*J. Bromley, Church Stretton £322

AMPTHILL.—Houses, for the R.D.C. Mr. L. Foster, surveyor, Flitwick, Bedford :—

Maulden, eight houses—
*W. S. Arnold, Greenfield £2,550
Clophill, four houses—
*W. H. King, Silsoe 1,240
Upper Gravenhurst, four houses—
*W. H. King, Silsoe 1,248
Shillington, six houses—
*C. Knight, Meppershall 2,094
Cranfield, four houses—
*Hillson Bros., Marston 1,520

BALLINAHINCH.—Reconstruction of the bridge, for the Galway C.C. :—

M. Bermingham £600
*P. J. Headford 477

BANGOR.—Enlargement of the Ballysallagh reservoir, for the U.D.C. :—

*R. D. Pollock & Co., Bangor .. £21,204 9 10

BARNET.—Houses, for the R.D.C. :—

*Mr. Cole—
Shenley-road—Five pairs, parlour type, £1,030 per pair; 14 pairs, non-parlour type, £880 per pair.
Bell-lane—Three pairs, parlour type, £1,102 per pair; three pairs, non-parlour type, £904 per pair.
Green-street, Shenley—Block of three non-parlour type, £445 each.
Ridge—Two pairs, non-parlour type, £886 per pair.
(Subject to M.H. approval.)

BELFAST.—For (1) Levelling and laying-out as playing fields of a site at North-road, and (2) erection of wrought-iron fence on brick wall at new playing fields, North-road, for the C.B. Mr. R. S. Wilshere, A.R.I.B.A., P.A.S.I. :—

(1)

Wm. McVIker	£7,173	6	0
Neave Bros.	3,749	0	0
M. M. Hart, Glasgow	3,350	0	0
P. Thomas	2,997	19	0

(2)

R. McKinnis	910	4	10
Wm. McVIker	832	0	0
F. Waterhouse	627	0	0

(All of Belfast.)

BIRDWELL.—Extensions to the Birdwell Council School, for the West Riding E.C. :—

*Rawson Porter.

BURY.—New X-ray and massage department at the Bury Infirmary. Mr. Alfred C. M. Lillie, L.R.I.B.A., architect, "Brownedge," Bamber Bridge, near Preston :—

*J. Tinline, Ltd., Bury £8,289

COLD HIENDLEY.—New Council elementary school, for the West Riding E.C. :—

*A. Gregory & Sons, Ltd.

BIRKENSHAW.—Extensions to the branch premises in Tong-street, for the Birkenshaw Industrial Society of Bradford-road. Messrs. B. D. Fairbank & Son, architects, Hallfield-chambers, Bradford :—

Excavator, mason and bricklayer—
*Hy. Waterhouse & Sons, Bradford.
Carpenter and joiner—
*W. Kellett & Co., Bradford.
Plumber, glazier, and heating engineer—
*H. S. Thorne, Gomersal.
Slater—
*T. H. Drake, Bradford.
Plasterer and concreter—
*F. Robinson, Gomersal.
Electrical engineers—
*W. P. Holt & Co., Bradford.

BRIDLINGTON.—Twenty-six houses, 14 parlour and 12 non-parlour type, on the Postil estate, for the T.C. Borough Engineer and Surveyor :—

J. M. Hall & Co., Darlington ..... —
Atkinson & Co., Brigg ..... —
Birch & Sons, York ..... —
W. Witting, Bridlington ..... —
*J. Sawdon, Bridlington £11,000

CHESTER.—Repairs at Mill Farm and Ferry-lane Farm, for the T.C. :—

*T. Boddy, Broughton £540

CLONMEL.—Reconstruction of the portion of the old Constabulary barracks, Clonmel, for the South Riding C.C. :—

Mr. Fitzpatrick, Kanturk	£7,760	0	0
Walsh Bros., Clonmel	6,500	0	0
*Roche, Morrissey & Kennedy, Clonmel	6,461	18	10

DARTFORD.—Wiring of 28 houses, on the Lowfield-street housing estate, for the U.D.C. :—

‡W. Bayliss ..... each £2 14

DENTON.—Twenty-four houses at Haughton Green, for the Denton U.D.C. Messrs. Thorpe & Collin, L.R.I.B.A., architects, Manchester :—

*John Clayton & Sons, Denton.

CHISWICK.—Sixty-four flats, for the U.D.C. :—

Thirty-two flats at Strand-on-the-Green—
*A. Roberts & Co., Ltd. £17,648
Thirty-two flats at Belmont-road, Essex-place—
*A. Roberts & Co., Ltd. £13,920

DONEGAL.—For (*a*) plumbing work at Buncrana, Carndonagh, and Donegal Courthouses; and (*b*) heating Buncrana Courthouse; (*c*) Carndonagh; (*d*) Donegal, for the C.C. :—

*(*a*) J. Donaghy, Derry £255
*(*b*) H. McMahon, Derry 117
*(*c*) Johnston & Co., Belfast 107
*(*d*) Musgrove & Co., Belfast 128

DUBLIN.—Painting of the interior of Protestant male and female hospitals, for the Union Commissioners :—

*Sheridan Bros. £411

EDENDERRY.—Cottage at New-row, for the Offaly Board of Health :—

J. Heeney, Rhode—			
Concrete	*£258	12	
Stone work	269	14	
H. Kerry, Careyboro', Edenderry—			
Concrete	275	0	
Limestone	300	0	

ELLESMERE PORT AND WHITBY.—108 semi-detached houses on the Stud Farm estate, Ellesmere Port, for the U.D.C. :—

*E. B. J. Gould, Ltd., Ellesmere Port .. £36,479

GOOLE.—Centenary Memorial clock tower, for the U.D.C. :—

*Platt & Featherstone, Goole.

GUILDFORD.—Six houses at Pathfield, Shere, for the R.D.C. :—

Guildford & District Guild of Builders £3,020
*F. H. Wood & Son, Albury 3,000

HAINE, NEAR RAMSGATE.—Repainting outside covered way at Isle of Thanet Joint Hospital :—

F. H. Rogers	£253	15	0
Mathew & Withan	245	0	0
S. W. Stannard	240	10	6
*Darby & Martin	200	0	0

(All of Ramsgate.)

HAMILTON.—Houses on Chantinghalt-road site, for T.C. :—

*Thos. Anderson & Sons, Hamilton £21,832 9

HEMSWORTH.—New elementary Council School at the Four Lane-ends, Fitzwilliam, for the West Riding E.C. :—

Main contract—*W. H. Wade & Son.
Plasterer and concretor—*T. H. Fuller.

HESSLE.—Providing and fixing a low-pressure hot-water heating apparatus at the Council school, for the East Riding C.C. :—

*E. G. Hill & Co. £529

HOVE.—Pair of non-parlour type houses on the Old Shoreham-road estate, for the T.C. :—

*W. Jones & Sons, Ltd. £1,020

KEIGHLEY.—Greenhouse at Infectious Diseases Hospital, for Keighley and Bingley Joint Hospital Board. Mr. F. Atkinson, L.R.I.B.A., Old Bank Chambers, Bingley :—

*W. & S. Bradley, Bingley.

KEXBROUGH.—New Council elementary school for the West Riding E.C. :—

*T. Hollingworth & Son.

KIRKBURN.—New bridge, for the East Riding C.C. :—

*J. Sawdon, Bridlington £965

LEEDS.—Tenders accepted by the T.C. :—
Conveniences to bowling greens and tennis courts at Woodhouse Moor—
*Cooper & Silversides £454 5 0
Sports pavilion and conveniences at Potternewton Park—
*Cooper & Silversides 378 12 6
Sports pavilion, Holbeck Moor—
*C. Rawson 122 19 0

LEEDS.—Painting a portion of the interior of the Town Hall, for the T.C. :—

*L. E. Wilkinson £331 17

LONDON.—Wiring and fitting for electric lighting, power and bells at Wandsworth County School, Putney, for the L.C.C. :—

Morris Electrical Co., Ltd.	£2,900	0	0
G. E. Taylor & Co.	1,582	12	2
Richard Hunt & Co., Ltd.	1,541	0	0
Alex. Hawkins & Sons	1,539	0	0
Smethurst & Co. (London), Ltd.	1,492	2	2
Gaillard, Robinson & Co.	1,373	0	0
T. H. Buxton, East Ardsley	1,358	10	0
A. E. Humphreys	1,342	9	0
T. Clarke & Co., Ltd.	1,291	15	0
‡The Alpha Manufacturing & Electrical Co., Ltd.	1,160	18	0
Chief Engineer's estimate	1,128	0	0

(All of London.)

LONDON.—Provision and fixing of low-pressure hot-water heating apparatus at Peckham Rye School, Peckham, for the L.C.C. :—

H. J. Cash & Co., Ltd.	£1,998
Brightside Foundry & Engineering Co., Ltd.	1,987
J. T. Meredith & Co., Ltd.	1,870
Thames Bank Iron Co., Ltd.	1,836
B. Finch & Co., Ltd.	1,820
J. Jeffreys & Co., Ltd.	1,795
‡W. G. Cannon & Sons, Ltd.	1,758
Architect's estimate	1,852

(All of London.)

LONDON.—Provision and fixing of low-pressure hot-water heating apparatus at Frankham-street school, Deptford, for the L.C.C. :—

S. W. Gibson & Co. (Dartford), Ltd.	£1,425
Thames Bank Iron Co., Ltd.	1,335
J. T. Meredith & Co., Ltd.	1,305
‡W. G. Cannon & Sons, Ltd.	1,269

(All of London.)

LONDON.—Permanent store on the Bloomfield estate, for the Lambeth B.C. :—

*F. & H. F. Higgs, Ltd. £266

MARGATE.—Women's lavatories, adjoining the existing men's lavatories at Buenos Ayres, and construction of public baths, for the T.C. Mr. E. A. Borg, Borough Engineer and Surveyor :—

Public lavatories—
A. Ross & Co., Westgate-on-Sea .. £2,300
*John B. Sharman, Ltd., Ramsgate .. 1,988
Public baths—
Operative Builders and Decorators, Ltd., Birchington 8,593
A. Ross & Co., ... 8,208
Rice & Sons, Margate 8,925
L. H. Snowden, Kingsgate 8,515
*John B. Sharman, Ltd., ... 7,706

MIDDLESTOWN (NETHERTON).—New elementary Council schools, at Shitlington, for the West Riding E.C. :—

*Abraham Graham.

NAPSBURY.—Nurses' home, additions and alterations to isolation hospital, new bath house, &c., verandahs to existing ward blocks, and five blocks of cottages, at Napsbury Mental Hospital, near St. Albans, for the Middlesex C.C. Mr. H. G. Crothall, F.R.I.B.A., County Architect, 87–91, Tufton-street, Westminster, S.W.1 :—

A. Roberts & Co., Ltd., Kensington	£64,996
Ekins & Co., Ltd., Hertford	63,537
Kempster & Williams, Watford	63,505
Wm. Moss & Sons, Ltd., Cricklewood	61,855
W. J. Maddison, Ltd., London	61,687
Henry Knight & Son, Tottenham	60,764
Walter Lawrence & Son, London	60,000
Leslie & Co., Ltd., London	57,945
H. J. & A. Wright, Ltd., Great Missenden	57,309
Perry Bros., Ealing	56,660
‡C. Miskin & Sons, Ltd., St. Albans	56,390

NEWCASTLE-UPON-TYNE.—Seventy-nine brick houses on the High Heaton estate, for the T.C. Housing Architect, 18, Cloth Market, Newcastle :—

Wm. Hall (Contractors), Ltd., Gateshead	£41,370	0	0
Lough Bros. (Contractors), Ltd., Gosforth, Newcastle-upon-Tyne	39,460	0	0
Geo. G. Carr, Newcastle-upon-Tyne	39,359	10	0
A. Anderson, Walker-on-Tyne	39,198	0	0
T. Irwin & Sons, Newcastle-upon-Tyne	38,430	0	0
Wm. Thompson, Newcastle-upon-Tyne	38,335	0	0
J. S. Hetherington, Newcastle-upon-Tyne	37,520	0	0
Wm. Welford, Sunderland	37,500	0	0
Adam R. Robertson, Blyth	37,196	17	6
H. Kelly (Contractor), Ltd., Newcastle-upon-Tyne	37,070	0	0
George Towers, Blyth	35,700	0	0
Neal & Shirley, Newburn-on-Tyne	35,333	11	10
*Nordmann & Sons, Ltd., Dunston-on-Tyne	34,533	13	6
T. E. Hill, Dunston-on-Tyne	33,373	10	0

NEWTON HEATH.—Twenty-four houses, for the Manchester Housing (1926), Ltd. Mr. J. Theo. Halliday, architect, 14, John Dalton-street, Manchester :—

*The Moston Brick & Building Co., Manchester.

PLYMOUTH.—Provision of a lavatory block at Didworthy Sanatorium, for the C.B. :—

*Cranch & Son £1,022

PLYMOUTH.—Storage accommodation in the Guildhall, for the C.B. :—

‡Pearn Bros. £129

PLYMOUTH.—Hut in ground of Beaumont House, for the Corporation :—
*Baskerville & Sons, Plymouth £399 10

PRESTON.—Alterations to the Preston Royal Infirmary. Mr. Alfred C. M. Lillie, L.R.I.B.A., Bamber Bridge, Preston :—
Brickwork and mason—
*T. Croft & Sons, Ltd., Preston.
Steelwork—
*T. Blackburn & Sons, Ltd., Preston.
Joiners—
*J. Cartmell & Son, Ltd., Preston.
Roof asphalting—
*Dickinson & Son, Ltd., Bolton.
Plaster and tiles—
*Cook & Son, Ltd., Preston.
Plumber and painter—
*J. Corbishley & Sons, Ltd., Preston.

ST. COLUMB MAJOR.—Pair of houses at Colan, including site works, drainage, &c., for the R.D.C. Mr. A. G. Oxland, surveyor, Queens, Fraddon, Cornwall :—

Menadue & Thomas, Perranporth..	£1,075 0
Trevarton & Wills, St. Columb	1,005 0
W. Carrwick, Newquay.....	885 0
A. Trethowan, Newquay.....	858 10
*J. Bond, St. Columb.....	834 0

SANDBACH.—Memorial pavilion to Sandbach School, for the Governors. Messrs. A. Price & Sons, architects and surveyors :—

P. McLachlan, Warrington	£3,000
F. Berry, Warrington	1,490
H. & E. Shaw, Sandbach	1,335
H. Hilditch & Son, Sandbach	1,330
*S. Jackson, Ltd., Sandbach	1,184

SKIRLAUGH.—Widening the bridge, for the East Riding C.C. :—
*W. Tune, Osgodby..... £541 1 3

STRETFORD.—Sub-station buildings, for the U.D.C. :—
Sub-station, East Union-street—
*Wm. Thorpe & Sons..... £1,609
Sub-station, Derbyshire-lane West—
*F. E. Gill & Sons..... 903

UPTON.—New Council School, for the West Riding E.C. :—
*Gelder Bros. & Woodcock, Ltd.

WHITBY.—Public convenience in Skinner-street, and for works in connection with additions to the existing convenience on the West Cliff, for the U.D.C. Mr. L. M. Blanchard, surveyor :—

R. A. Wilson & Sons.....	£789
—Howard	665
*Breckon Bros.....	580

(All of Whitby.)

WHITBY.—New Pannett Art Gallery. Messrs. Hays & Gray, architects, Wingate, Durham :—
*C. Hebditch, Loftus.

WIGAN.—Extensions to the existing building of the technical college, for the Wigan & District Mining College. Messrs. Briggs & Thornely, FF.R.I.B.A., 612, Royal Liver Building, Liverpool :—

Robt. Jones & Co., Liverpool	£34,500 0
Wm. Thornton & Sons, Liverpool	34,255 0
J. Dolan & Son, Warrington	33,514 0
Massey Bros., Wigan.....	32,590 0
Wm. Moss & Sons, Liverpool	32,199 0
Alex. Wigan & Son, Wigan	30,222 0
John Watson, Ashton-in-Makerfield	30,150 0
W. J. Bickerstaffe & Sons, Wigan	29,926 10
D. A. Ablett & Son, Wigan	29,908 0
Joseph Wilson & Co., Wigan.....	29,390 0
Darbyshire, Jackson & Co., Wigan	29,325 15
*J. Johnson & Son, Wigan	28,375 0

WINDERMERE.—Sixty houses on the Oldfield housing site, for the U.D.C. Mr. F. Carlisle Needham, engineer and surveyor, Broad-street :—
*J. Gray Mark, Sunderland £27,031

WOLVERHAMPTON.—Sub-station building at Brewood and at Featherstone, for the T.C. :—
*F. J. Wooton, Bloxwich.... £242 10 each

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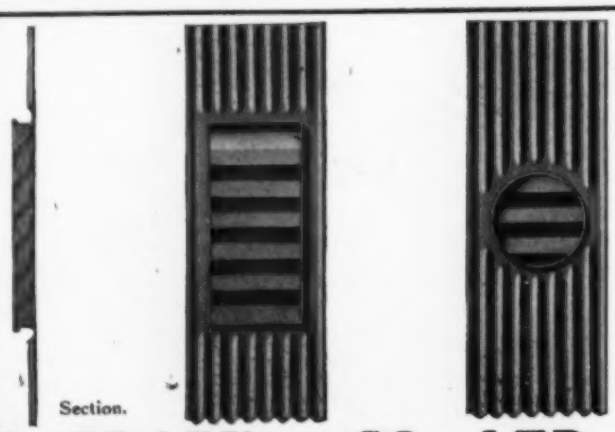
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